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THE PSYCHOLOGICAL ASSESSMENT OF SWEDISH RETIRED PERSONS COMING FROM URBAN AND NON-URBAN ENVIRONMENTS

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TO MY TWO FAVORITE RETIRED PERSONS -
MY MOTHER AND FATHER

PREFACE

What does the future look like for the pensioners in our society? As a group they will be better educated and have a more equal experience of working life. Just like everyone else's, their set of social values will change and thus also their expectations upon society. As a group they will also increase in size, not least because both the lower and the upper age limit has shifted. Many will fall into the category of pensioners during a quarter of their total life span. The realization of a better life environment is associated with difficulties of various kinds. There may be deficiencies in the physical environment or in the social network and services. To what extent, for instance, can satisfactory conditions in one respect compensate for bad conditions in another? The difficulty may also be that the individual elderly person is not able to utilize the resources that are made available. To a large degree, of course, this is a question of influence in society. But there is also a need for more detailed knowledge about the elderly themselves which constitute, not a unified group of people, but a great number of individuals. The main aim of this report is to illuminate the differences, not the similarities, of these people.

This report constitutes the third part of a forthcoming Ph D-thesis in psychology. In this respect it signifies a cooperative effort between the Department of Psychology, Lund University, and the Environmental Psychology Unit at the Lund Institute of Technology. The study was supported through a graduate scholarship from the Department of Psychology. As part of the larger research project: Housing, work and leisure in the upper age groups, it was also supported by a grant from the Swedish Building Research Council.

I would like to express sincere thanks to the following persons who have helped the project in various ways. For providing testing facilities thanks are due to the Social Welfare Departments in Karlskrona and Malmö; for administrative and practical help at the testing locations, Gerd Hallberg and Berit Mattisson in Malmö and Margit Ottosson and Viola Andersson in Karlskrona; and finally the project reference group consisting of Assar Andersson and Gürit Salomonsson, Karlskrona, Hans Blücher and Holger Granath, Malmö, Margreth Johansson, Yngve Lundqvist, Gudmund Smith and Owe Ahlund, Lund, Gillis Samuelsson, Dalby and Carin Boalt, Stockholm.

Lund, May 1986

Rikard Küller

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SAMMANFATTNING

Watzke, J.R. 1986. En psykologisk utvärdering av svenska pensionärer från stadsmiljö och landsbygd. Miljöpsykologiska Monografier Nr. 5. Sektionen för Arkitektur, Tekniska Högskolan i Lund (99 sidor, Engelska) ISSN 0280-8269.

Rapporten behandlar välbefinnande och anpassning hos äldre människor. Den bygger på en omfattande utvärdering av 115 pensionärer (i åldern 60-70 år) som deltog i en större undersökning om pensionering under olika miljöförhållanden (Küller, pågående). Studien hade tre syften. För det första att utveckla ett anpassningsindex för äldre människor. För det andra att studera samspelet mellan anpassning och personlig kompetens. Pensionärernas kompetens mättes med tolv olika metoder inom följande delområden: fysiologi, personlighet, kreativitet, kognition, emotionella reaktioner i konflikt situationer, miljöattityd, uppmärksamhet och stresstolerans, samt tidsbudget. Det tredje syftet med studien var att med hjälp av Q-faktoranalys identifiera olika kompetensmönster. Resultaten visade att det anpassningsindex som utvecklats fungerade väl. Dess tre mest utmärkande aspekter avsåg självskattat hälsoläge, samt känslan av att vara glad och trygg i motsats till ledsen och ängslig. De sämst anpassade pensionärerna återfanns bland kvinnorna i stadsmiljön. Detta kunde delvis förklaras i termer av neuroticism och miljöförtroende. Trots att pensionärerna i landsbygden i allmänhet föreföll bättre anpassade var deras kompetens lägre i synnerhet vad avsåg männen. Detta tolkades i enlighet med Lawtons modell för anpassning till miljön (Lawton & Nahemow 1973). I övrigt hade de bättre anpassade pensionärerna högre kompetens i flera avseenden, men det fanns också belägg för större variation i anpassning mellan personer i stadsmiljön än mellan dem som bodde i landsbygden. Q-faktoranalysen, slutligen, resulterade i att ett flertal olika kompetensmönster kunde fastställas. För kvinnorna utgjordes de två mest intressanta grupperingarna dels av välanpassade, gifta kvinnor i landsbygden, dels av en grupp mindre välanpassade kvinnor med god kognitiv och kreativ kompetens. Beträffande männen erhölls bl a tre intressanta grupperingar, alla med god anpassning. Dessa kan beskrivas som "extroverta stadsbor", "friska lantbor", och "självförverkligande i småstad".

ABSTRACT

Watzke, J.R. 1986. The psychological assessment of Swedish retired persons coming from urban and non-urban environments. Environmental Psychology Monographs No. 5. School of Architecture, Lund Institute of Technology, Sweden (99 pages) ISSN 0280-8269.

The present report is concerned with well-being and adjustment in older age. It is based on an in-depth assessment of 115 retired persons (age 60-70) who were selected from a larger study concerned with the retirement of persons from five different living environments in southern Sweden (Küller, forthcoming). The study had three aims. The first was to develop a subjective scale to measure adjustment to older age. The second aim was to investigate adjustment in older age and its relation to personal competence. The subjects' personal competence was assessed by twelve measurements in the following domains: physiology, personality, creativity, cognition, emotional processing and problem solving, environmental attitudes, attention-stress, and time-budgeting. The third aim was to identify any patterns of personal competence within the sample using Q-factor analysis. The results supported a positive appraisal of the 21-item adjustment scale; its three highest loaded items were self-rated health, feeling happy vs. sad, and feeling secure vs. anxious. The results for adjustment and personal competence showed the urban females to be least well adjusted, the measures of Neuroticism and Environmental Trust were offered as the best explanations in the assessment data for their poorer adjustment. Although the rural subjects were generally better adjusted in comparison to the urban, their competence, especially the rural males, was lower. This was interpreted in terms of Lawton's model of environmental adaptation (Lawton & Nahemow 1973). Otherwise, better adjusted subjects revealed higher competence across many of the testing domains but there was evidence of a wider range in adjustment between the persons from the urban areas in comparison to those from the rural. Finally, the cluster analysis revealed several interpretable competence patterns. Concerning the females, two of the most interesting clusters consisted of well adjusted wives from the rural areas and a less well adjusted group who showed high competence on the cognitive and creativity measures. For the males, the most interesting clusters revealed three versions of good adjustment in older age. These were interpreted as "big city extroversion", "healthy country living", and "small city self-actualization".

BACKGROUND

Aging and well-being

In its most general sense, the present study falls under the field of AGING. Aging as a scientific field has expanded and is continuing to expand at a formidable rate. This increasing attention is easily explained by the changing demographic structure of most western countries, i.e., the number of older persons is increasing and will continue to do so in the future. The learning institutions and funding agencies in a society usually reflect the degree of interest in a subject in the society at a given time, e.g., the interest in social unrest research of the 60's, energy research of the 70's, etc. Such is the case for aging in the 80's.

More specifically, the present report is concerned with successful and less successful aging. Successful aging has been a major preoccupation of gerontologists and has been studied in two basic ways. The first approach focuses on objective factors such as social networks, activity patterns, socioeconomic status, and the physical environment, to name just a few. The other way looks to the inner, subjective experiences as its gauge of adjustment to aging. According to Costa, et al. "Subjective well-being seems to be the most appropriate criterion for personal adjustment to aging and much of the literature on gerontology has been devoted to the conceptualization, measurement, and prediction of well-being" (1981, p. 78). The present study will encompass aspects of both these ways of studying well-being in older age.

Research in the second area has focused on the creation of a number of constructs in an effort to identify the significant characteristics of well-being, among them, life-satisfaction (Neugarten, et al. 1961, Gardell & Westlander 1968, Diener, et al. 1985), morale (Lawton 1975a, Kutner, et al. 1956), happiness (Kozma & Stones 1980), and positive and negative affect (Bradburn 1969). Each of these constructs has at least one scale for their measurement, and each of the scales often features a number of factors. An important issue has been the conceptual clarity between these scales and their various factors (see e.g., Carp 1977, George 1982, Stones & Kozma 1980). The most recent and comprehensive study attempting to clarify this situation was reported by Lawton, et al. This effort does not resolve all of the issues but it appears that self-ratings of "happiness" and "negative affect" are the most salient components of adjustment, followed by self-rated health, residential satisfaction, expression vs. denial of negative affect, self-esteem, social anxiety, time use, and psychophysiological symptoms (1984a, p.80-89).

In this area a second major interest of research has been what might be called the mapping of well-being in older age. Here one finds studies which often combine both subjective and objective measures of well-being towards the investigation of a wide assortment of problems or questions. During the last thirty years, a huge amount of information has accumulated about subjective well-being and, for example, activities (see, e.g., Lawton 1983, O'Brien 1981, Bonacci 1984), social factors (see, e.g., Palmore & Luikart 1972, Conner, et al. 1979), personal control (see, e.g., Reid & Ziegler 1980), socioeconomic status (see, e.g., Edwards & Klemmack 1973,

Foner & Schwab 1981), physical health (see, e.g., Palmore & Luikart 1972, Tornstam 1975), marital status and household structure (see, e.g., Glenn 1975, Lawton, et al. 1984 b), personality dimensions (see, e.g., Costa & McCrae 1980, George 1978), inner city elderly (see, e.g., Lawton & Cohen 1974), small town rural elderly (see, e.g., Scheidt & Windley 1983), and a variety of "environmental change" studies, e.g., residential location, relocation from community to institution, from institution to community, etc. (see, e.g., Tobin & Lieberman 1977, Coffman 1981).

There are few attempts to review this body of literature, one exception is Larson (1978). As expected, the findings from the studies within each topic can vary. One example, is the importance of social relationships upon well-being and adjustment. A group of studies have shown little or no relationship between social interaction and better adjustment (e.g., Conner, et al. 1979, Edwards & Klemmack 1973, Ward, et al. 1984). However, it has recently been shown that the subjective quality of social relationships is a clearer predictor of better adjustment than the frequency of social interaction (Laing, et al. 1980, Ward, et al. 1984 a).

Another example of a complicated topic is that of activity levels and adjustment. Contradictory findings are found throughout the literature, including recent studies (see, e.g., Larson 1978, O'Brien 1981, Hooker & Ventis 1984, Bonacci 1984, Berg 1979). Here, as with the question of social contacts, it has been argued that the subjective qualities of activities, e.g., the perceived meaningfulness, usefulness, and pleasantness of ones activities might be a more effective predictor of better well-being than frequencies, per se (see, e.g., Lawton 1983, Hooker & Ventis 1984, Szinovacz 1982).

Other findings have shown rather clear agreement. For example, it is well established that physical health is critical to well-being in the elderly (see, e.g., Palmore & Luikart 1972, Lawton 1984, Berg 1979). Finally, there are clear findings showing older aged females to be less well adjusted in comparison to males (see, e.g., Bromley 1966, Johansson 1971, Nilsson-Poppe 1977, Berg 1979).

A more thorough review of the research related to well-being and adjustment in older age is beyond the scope of this report. The purpose of this brief sketch was to demonstrate the breadth of the research area which the present report is concerned with. It should also be clear that there are still many questions in need of answers with regard to well-being and older age.

Theoretical framework and aim of the study

Although the present study is most appropriately viewed as a descriptive, rather than a theoretical work, some use will be made of the primary concepts from a theoretical model proposed by Lawton & Nahemow (1973). A brief presentation of this model will be given in an effort to illuminate the aims of the study which will be outlined subsequently.

A clear sketch of the original model was given by Windley and Scheidt (1980, p. 408-409): "Lawton and Nahemow (1973) elaborated a model of adaptation and aging based on an interactionist view of behavior (B=

(f)P X E). Competence represents the person element (P) of the formula and "environmental press" the environmental element (E). Adaptive behavior is the behavioral outcome (B) of interest (outer criterion), though Lawton also recognizes internal outcomes (level of morale, happiness). Competence is defined as a profile of a person's capacities, including biological health, sensation-perception, motor behavior, and cognition (Lawton 1975b). Environmental press is observationally defined as challanges or "demands" that activate behavior in people. The theory specifies that those who operate at higher levels of competence can adapt to a wider range of environmental press and have greater likelihood of experiencing favorable adaptive outcomes. Those of lower competence will experience a greater range of press in negative terms, exhibiting a narrower range of adaptive behavior." These last two assumptions are known as the 'docility hypothesis' (Lawton & Simon 1968). It can be added that the relation between an individual's competence and environmental press and the resulting adaptive behavior has limits, i.e., extremes in environmental press (low or high) are expected to result in maladaptive behavior and negative affect.

Lawton's model has been criticized by, amongst others, Katz (1975) and Carp (1976), but the most comprehensive critique was by Svensson (1984). Svensson proposed two important modifications in the model, one of which is particularly relevant to the present study. This modification involves the expansion of competence into two components, covert and overt. Covert competence is seen as a function of both the person factors (e.g., biological health, perceptual and cognitive abilities) and mediators (Cc=f P X Mediators). Mediators are products of the interaction between the person factors and the environment, e.g., personality traits, needs, ego strength. Next, overt competence is viewed as a function of the newly defined covert competence and the environmental factors, i.e., overt competence is the outcome of the total inner capacities of a person and his/her interaction with the environment (Co=f (Cc X E)). This modification in the model is important because it conceives of two levels of competence thereby allowing the potential for growth or learning in competence, a feature not found in the original model.

The model's value to the present study is more conceptual than applied because it is best suited for studies where the environment of interest is reasonably manageable, e.g., a care institution where the environmental behaviors, properties, and interventions can be carefully measured. The environments in the present study are viewed in a very global sense and are assumed to differ in certain manifest characteristics, e.g., the large urban areas have greater population density than the rural areas. Nevertheless, substantial use will be made of the two key concepts in the model, personal competence and environmental press, especially in the organization of hypotheses, categorization of the data, and the interpretation of findings about the pensioners in the study.

The distinction between the two types of competence will also be applied throughout the study. For example, a person's performance in a testing situation can be viewed as an outcome of his or her overt competence. However, since covert competence is one component of overt competence, one can make inferences about the former from the latter. Such inferences are governed very much by the testing measures being used, i.e., some data are believed to be indicative of one or the other type of

competence. Similar issues have been central to psychology for many years, e.g., under the label of trait vs. state, person vs. situation, etc.

The present study had three general aims. Most generally, we wanted to describe the well-being and adjustment to aging of Swedish pensioners who came from different living environments. These environments will be described in detail later, but for now they can be labeled as:

1. large city, outlying highrise
2. large city, central lowrise
3. small city, central lowrise
4. agricultural, single family
5. peninsula/archipelago, single family

The measurement of adjustment to aging will be determined by scores on an adjustment scale developed especially for the study. This scale is similar to those mentioned earlier.

A fair amount of reasearch exists on the psychological well-being of urban elderly (see, e.g., Lawton 1974) likewise for rural elderly (see, e.g., Windley & Schiedt 1983). This is also true for Sweden, although there is much less reported on rural elderly populations (see, e.g., Berg 1979, Nilsson-Poppe 1977, Samuelsson 1981). There are however, few, if any studies which look at differences in well-being of retired persons from different macro environments and allow comparisons of data on identical measures.

What hypotheses can be stated concerning adjustment for the present study? One often hears the common sense statement "old folks out in the country are happier". This is in fact our first general hypothesis, i.e., the non-urban groups are expected to reveal greater well-being in terms of the adjustment index. The basis for this comes from amongst other things that portion of Lawton's model concerned with environmental press. Disregarding for the moment the other key factor in the model (personal competence), it will be assumed that the environmental press in the urban environment is greater than in the non-urban environment and that this affects the outcome of well-being in older persons; higher press resulting in poorer adjustment. In other words, although urban and rural pensioners might have the same competence, the higher press in the city gives the people there some disadvantage. Thus it would take the appropriate (higher) competence to be well adjusted in the city. What about adjustment scores between the males and females? Some studies indicate females have greater difficulties after retirement, which can lead to maladjustment (Berg 1979, Johansson 1971, Nilsson-Poppe 1977). Since the environmental press is greater in cities, we would also hypothesize greater numbers of less well adjusted females in the urban areas.

The second aim of the study was to investigate the relations between the various aspects of personal competence on one hand and adjustment to aging on the other. The adjustment variable was given the primary standing in the study's design. In other words, after the selection of two groups, one of better and one of less well adjusted pensioners (who also happen to vary in living environment and sex), the goal was to

illustrate this difference in adjustment in terms of personal competence.

The qualities of personal competence were assessed through a set of measurements from the following eight domains:

1. general activation (physiological)
2. personality traits
3. creativity/divergent thinking
4. basic cognitive functions
5. emotional processing and problem solving
6. environmental attitudes
7. attention-stress performance
8. daily activities

Five of the methodsincluded in the assessment package were new or had not been previously used with older aged samples. Thus, the present assessment had a dual goal: the exploration of domains of personal competence which have not been given much attention in the area of well-being and aging; and the development of methods which might prove useful for future research with the elderly.

What types of hypotheses stemmed from this design? First, as suggested by the theoretical model, the better adjusted pensioners were expected to display higher competence, i.e., be better equipped to meet the demands of the various tasks from the testing package. For example, recent studies have shown lower neuroticism and higher extroversion to be positively related to adjustment in the elderly (Costa, et al. 1981). Thus, a like hypothesis was held for the present study. The more interesting question is whether such findings will hold true for the urban groups as well as the rural, for the females as well as the males.

Hypothesis formulation for the less studied domains in the assessment package were based on logical consideration and/or the extrapolation from findings from younger adult samples. For example, on logical consideration, the better adjusted pensioners were hypothesized to display superior stress performance on the signal detection task which was included in the assessment. Because of the large number of measures included in the assessment package, it was considered impractical to present each specific hypothesis in this section. Instead, any important hypotheses for each competence domain will be highlighted later in conjunction with the description of the respective measurements.

The third and final aim of the study was to describe what will be called patterns of personal competence. Towards this goal, a Q-factor analysis was performed to reveal clusters of subjects in the sample who displayed similar response patterns across the data. This aim is not unlike the well-known studies by Reichard, et al. (1962) and Neugarten, et al. (1968) where 'retirement types or strategies' were extracted. A qualitative presentation of these results will attempt to humanize and synthesize the findings from the entire study. An effort will be made to place the resulting competence patterns into the context of the lifestyles of

Swedish pensioners. The interpretation and discussion of the clusters are aided by time-budget data collected from each subject.

No specific hypotheses were formulated for the cluster analyses, but since the selection of the subsample was based on scores on the adjustment index, adjustment was expected to come out in the clustering. The most interesting questions here concern which pieces of the competence data would best characterize the different clusters and whether variables related to the physical living environment or the social background of the subjects would be the more salient in defining the various clusters.

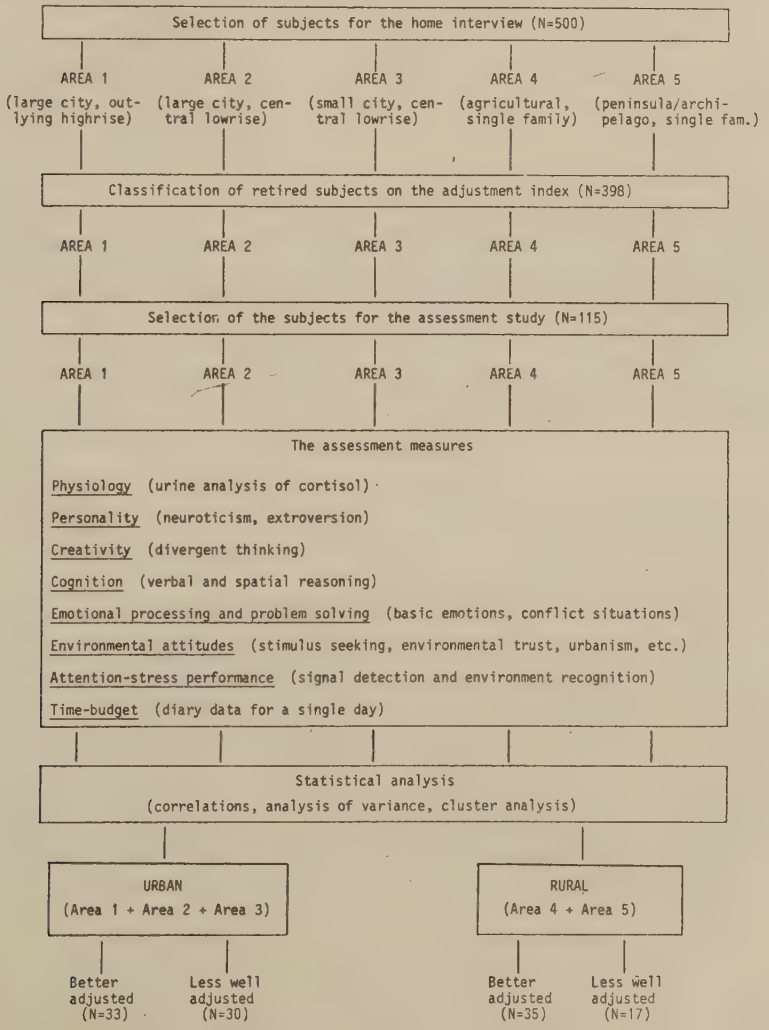
To summarize, the present study had three major aims. The first was the description of adjustment to aging in various environments. Second, an in-depth assessment of several domains of personal competence was conducted in an effort to better understand the relations between those domains and adjustment to aging. The final goal was to extract typical competence patterns among the subjects and to describe and interpret these patterns in terms of their everyday lifestyles.

DESIGN OF THE STUDY

General outline

The study reported here is part of a larger project titled 'Housing, work, and leisure in the upper age groups' which was conducted by the Environmental Psychology Unit in Lund, Sweden. From the beginning, the project was planned in two phases (Figure 1). The first phase consisted of a home

Figure 1. *Scheme of the study.*



interview of 500 persons, aged 60-70, coming from five specially selected living areas in southern Sweden (these areas will be presented in detail later). The interview was the questionnaire-survey type covering what might be called the person's 'comprehensive life-situation'. The interview form featured questions concerned with housing, social situation, retirement, education and work, leisure activities, physical health, and personal adjustment. For a detailed report of the first phase of the project, see Küller (forthcoming).

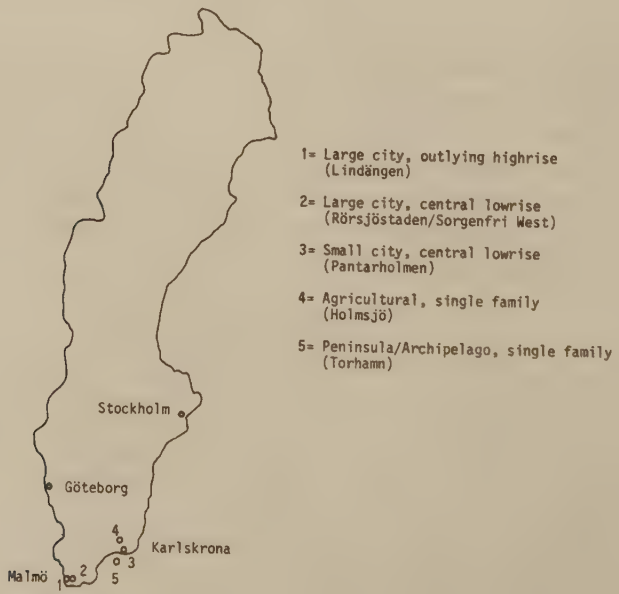
For the second phase of the project (being presented here), a subsample of 115 retired persons from the original sample were selected for an in-depth assessment study, the main purpose being, as mentioned earlier, the description of their personal competence and its relation to adjustment of aging, living environment, and sex.

In the remainer of this section, the five living areas from the study, the adjustment index, and the selection of the subjects for the assessment study will be described in detail. In the end of the section, a detailed description is given of the assessment measures selected for the study.

The five living areas

The project was conducted in southern Sweden in the regions of Skåne and Blekinge; together these regions contain approximately 15% of Sweden's total population. Of the five sites in the study, two were located in Malmö; the other three were in and around Karlskrona (Figure 2).

Figure 2. *A map of Sweden showing the locations of the five living areas in the project.*



Malmö is the third largest city of Sweden (pop. 1984: 235 000). It is an industrial port city dating back to the 12th century. Malmö is an important communication center for Sweden and the rest of Europe because of its proximity to Denmark and Germany. In the latest century, the city's economic livelihood has been based on various manufacturing industries, the major being shipbuilding. Worthy of special note is that Europe's largest long-term care hospital is located in Malmö (Värnhem).

Area 1, Lindängen, is an outlying highrise area of Malmö. It consists only of multi-family houses built between 1965-70, the buildings are of concrete and range from 4 to 14 floors. Most of the retirees in this area live in two or three room flats (plus kitchen and bath). The area is a result of the much discussed building boom during the 60's and 70's in Sweden (Küller 1986), and it could be said the area is typical of areas planned and built during that period, e.g., in terms of vegetation, play,and common outdoor space. Frequent bus service exists into central Malmö. The area itself houses about 6000 persons, of which 15% are over the age of 65. The average length of residence for our retirees here was 6 years.

The second area, Rörsjöstaden and Sorgenfri West, is a central area in Malmö consisting of multi-family buildings dating from 1910-1950, ranging from 3-5 floors. The character is determined by the quality of downtown Malmö, i.e., the area is within short walking distance of those features typical of middle-sized European cities, e.g., walking streets, town squares, parks, and the railway station. This living area houses approximately 9000 persons, of which 30% are over the age of 65. The average length of residence for the subjects from this area was 12 years.

Karlskrona (pop. 1984: 22 059) is a harbor town, its history is based on its designation as a naval station in the late 17th century; even today the navy is an important establishment in the town. The largest private industry in Karlskrona is LM Ericsson, a manufacturer of electronics equipment.

Pantarholmen, area 3, is a central multi-family housing area in Karlskrona. The buildings here date from the 1940's-1960's; all are between 3 and 5 floors, both brick and stucco facades. The area contains approximately 800 persons, of which 50% are pension aged. The average length of residence for the subjects from this area was also 12 years.

The fourth area, Holmsjö, is a forest and agricultural area approximately 20 miles north of Karlskrona consisting mostly of single-family homes dating from the latter half of the 19th and first half of the 20th century. This is a rural environment, the major livelihoods coming from small scale forestry and farming and other skilled manual vocations. It is estimated that 26% of the 1200 inhabitants in this area are pension aged. The average length of present residence for the Holmsjö subjects was 30 years.

The fifth area, Torhamn, is a peninsula and archipelago district located southeast of Karlskrona. Here as in Holmsjö, one finds mostly older single-family homes. Public boat transportation exists for the islands allowing daily communication with the largest village on the peninsula

(Torhamn - approximate pop. 1600) or, in some cases, with Karlskrona. The main vocations from this area are fishing, agriculture, and artisan activities. The total area contains about 2600 persons and of those, 27 % are estimated to be over the age of 65. The subjects from this area had the longest average length of residence (35 years).

In summarizing the selection of the five environments, it can be said there exists marked diversities between them in landscape character, cultural history, vocational livelihood, density and size of population, residential character, and average length of residence. Please see Figure 3 for photos of four of the five areas.

Figure 3. *Four of the five living areas in the study.*

1. *Lindängen, the outlying high-rise area of Malmö*

2. *Rörsjöstaden/Sorgenfri West, the central lowrise area of Malmö*

3. *Pantarholmen, the central low-rise area of Karlskrona.*

4. *Holmsjö, the rural agricultural and forest area (Note: This home was not in the present study.)*

The adjustment index

As mentioned above, it was decided to create an adjustment index to serve as a basis for the selection of the subsample for the present study. Items located in the home interview form were the source for the index. The index was established in two steps. First, judges (three environmental psychologists and one environmental engineer) went through the interview form and selected those items they felt would best reflect a person's adjustment to retirement; only items which involved subjective assessments of one's own situation as a retiree (psychological, social, or physical) were considered. The judges' nominations were then pooled, discussed, and tested by factor analysis. Finally, an acceptable solution based on 21 items was arrived at (Table 1). An examination of the scale showed that

Table 1. *The items comprising the adjustment criterion. The factor loadings for the items appear to the right (single factor, orthogonal rotation, N=398). Each subject was given a ranking in adjustment based on their scores for the 21 items.*

1.	Health composite (A self-rated checklist of symptoms, e.g., headaches, anxiety, indigestion, etc. A lower value indicates better health.)	-.64
2.	Have you felt (for the most part) happy or sad in recent times? (happy=1, uncertain=2, sad=3)	-.63
3.	Have you felt (for the most part) anxious or secure in recent times? (anxious=1, uncertain=2, secure=3)	.62
4.	Have you felt (for the most part) rested or tired in recent times? (rested=1, uncertain=2, tired=3)	-.58
5.	Are you satisfied with your existence as it is today? (no=1, uncertain=2, yes=3)	.53
6.	Have you felt (for the most part) unproductive or effective in recent times? (unproductive=1, uncertain=2, effective=3)	.52
7.	Have you felt (for the most part) unsure or self-certain in recent times? (unsure=1, uncertain=2, self-certain=3)	.51
8.	Do you often feel lonely? (no=1, uncertain=2, yes=3)	-.51
9.	To be older, is it better or worse than you thought it would be? (worse=1, uncertain=2, better=3)	.50
10.	Do you feel any types of insecurity in becoming older? (no=1, uncertain=2, yes=3)	-.49
11.	Are you worried that someday you will be sick and not able to care for your self? (no=1, uncertain=2, yes=3)	-.47
12.	Do you often feel that no one needs you? (no=1, uncertain=2, yes=3)	-.47
13.	How do you describe your general health relative to others in your age? (less healthy=1, same=2, more healthy=3)	.41
14.	Are you easily irritated? (no=1, uncertain=2, yes=3)	-.40
15.	Do you think you feel older or younger than persons in your age group? (older=1, uncertain=2, younger=3)	.36
16.	Was it hard to pass the time right after retirement (no=1, uncertain=2, yes=3)	.34
17.	Do you regret not having made more of the possibilities in your life? (no=1, uncertain=2, yes=3)	-.33
18.	Do you usually have troubles falling asleep at night? (no=1, uncertain=2, yes=3)	-.33
19.	Do you think the people in your living area feel lonely and isolated? (no=1, uncertain=2, yes=3)	-.33
20.	Activities Composite (A checklist of activities participated in during the last six months, e.g., eating out, going to a film, etc. A higher value indicates higher activity level.)	.31
21.	Do you want to live in your present area the rest of your life? (no=1, uncertain=2, yes=3)	.30

comparable items are found in one or the other of existing well-being and adjustment scales discussed earlier.

In accordance with Lawton's resulting components of psychological well-being (1984 a), it was encouraging to see that self-ratings of health and happiness were the two strongest items in the index. Although this index is not being offered as a new or reliable scale - as yet, there are no test-retest data for it - there will be an opportunity to judge the preliminary construct validity of the criterion from the data of the present study.

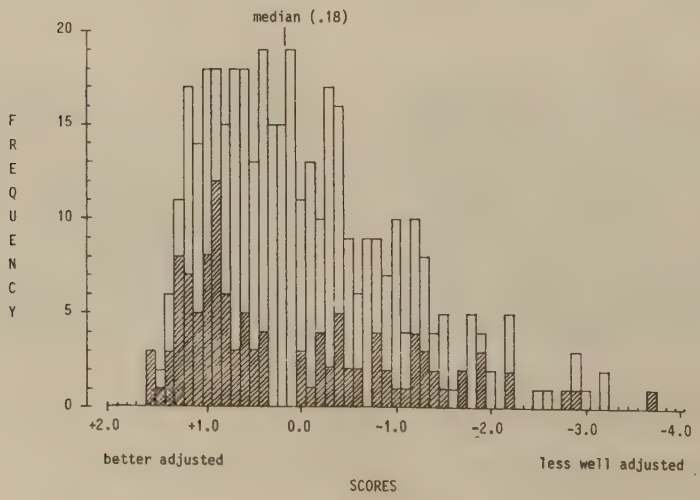
With the adjustment criterion established, it was possible to select the subsample for the present assessment study.

Subjects

For the original sample of 500, one hundred persons from each of the areas had been randomly selected; balancing procedures for sex and age stratification (age 60-70) were employed (a thorough description concerning the selection of the original sample will be given in Küller, forthcoming).

For the present study, it was decided to only include fully retired persons. This left a total of 398 from the original sample of 500. Next, scores were calculated from the 21-item adjustment criterion which allowed ranking of the subjects from most to least well adjusted. Figure 4 shows the distribution of adjustment scores for the original sample of retired persons and the subsample for the present study.

Figure 4. *Distribution of scores on the adjustment index for the larger sample (N=398) and the subsample for the present study (N=115).*



This distribution is interesting in itself; it shows a skewness at the positive end of the adjustment criterion. However, this majority of better adjusted persons did not score as extreme as those at the negative end of the distribution. This is supportive of the common sense notion "when it rains (e.g., personal problems), it pours". Whether or not this distribution is typical of other similar groups of pensioners in Sweden is a question requiring more data. Nevertheless, this points to an important fact about the present study: we were, for the most part, studying pensioners who perceived their life-situation as fairly positive.

The priority of the assessment study was to investigate two groups from the larger study's sample: those who were most well adjusted according to the adjustment index, and those who were least well adjusted. In effect, the first testing station was set up in the large city (Malmö) and as many subjects as possible from the two large city areas were tested in a two month period. The subjects from the extremes of the large sample's distribution of adjustment rankings were contacted first, i.e., those who were ranked most and least well adjusted irrespective of sex. Then the testing station was moved to Karlskrona where the same procedure was employed, containing the most and least well adjusted subjects from any of the three remaining living areas. At the end of the testing, a total of 115 subjects had completed the assessment package.

One important question concerns the similarity between the large sample and the subsample for the present study with respect to adjustment scores. All the groups from the subsample, with the exception of the females from the large city areas, were more positive in adjustment when compared to the larger sample. Because the subsample was selected from the extremes of the larger sample, an exaggeration of adjustment scores of those subgroups who had more extreme scores in the larger sample was expected. This helps account for the more negative adjusted scores of the urban females in the subsample.

There were undoubtedly other selection factors which affected the final composition of the subsample. For example, an examination of adjustment scores of the subjects who were invited in for the present study but did not participate (attritions) suggested an added selection effect for sex, which resulted in an overrepresentation of better adjusted males in the present study. A more detailed presentation of results from the adjustment index will be given later at the beginning of the results section.

Before turning to the background characteristics of the subjects, it should be noted that the total attrition rate for the subsample was 78%. The lowest was 69% for the males from the small city area, Pantarholmen; up to a high of 90% for the males from the large city central area, Rörsjöstaden/Sorgenfri West. There were no attrition differences in terms of sex, but the two large city areas were slightly higher (85%) in comparison to the small city (72%) and rural areas (74%).

Besides adjustment ranking, three other background variables for the assessment sample should be discussed, namely occupational and marital status and education level (Table 2). Most of the values in the table

were as expected, e.g., the differences in number of white collar workers between the urban and rural males, the number of widows, as well as the greater number of separated or divorced subjects from the urban areas. One surprise was the high number of females who had worked outside the home, 79%, for both urban and rural combined. This is a high percentage

Table 2. *Occupational and marital status of the assessment sample, total N=115.*

	FEMALES			MALES		
		Urban*	Rural*		Urban	Rural
OCCUPATIONAL STATUS	Home manager (including all forms of work in the home)	2	9	Blue collar (factory workers, electricians, bus drivers)	24	19
	Worked outside the home, but not full time, and/or not for an extended period of time (<10 years)	2	5	White collar (civil service, salesman, office worker, police)	12	1
	Worked outside the home, part time or full time for a long period of time (>10 years)	22	12	Own boss (farming in the country, store owner in the city)	1	6
	Total	26	26		37	26
MARITAL STATUS	Never married	2	3	Never married	4	6
	Separated or divorced	7	0	Separated or divorced	5	0
	Widowed	5	4	Widowed	2	2
	Living with a mate	0	0	Living with a mate	3	0
	Married	12	19	Married	23	18
	Total	26	26		37	26

* urban = areas 1 + 2 + 3; rural = areas 4 + 5

for this cohort and suggests that for the assessment sample there was an added self-selection effect with regard to the females' occupational status. Finally, the general educational level of the sample is that of

the primary level, which for this cohort was seven years of public school. There were no differences between males and females but the urban had a higher level compared to the rural. The implications of this difference are hard to judge because it was minimal and reflects a difference in vocational education, which can vary greatly in content and length of study.

The assessment measures

In this section each of the measurements included in the assessment package will be presented. Some are well known and require little description, others were newly created for the package and will be described in greater detail. Any special factors determining the selection of a measurement as well as hypotheses concerning it will also be mentioned.

Physiological

- Visual acuity and color deficiencies - these were included because one of the other measurements in the package was a visual search task and therefore inappropriate for subjects with extreme visual problems.

- Urine analysis of cortisol is believed to be an indicator of general activation and/or stress functioning. Intrigued by the findings of Arnetz (1983) who found blood cortisol differences between two groups of pensioners dependent on their engagement in a special senior citizens program, it was decided to measure cortisol levels. Subjects were asked to bring a urine sample with them to the testing session taken from their first urine that same morning.

Personality

- The Eysenck Personality Inventory (Eysenck 1968) was selected for two reasons. First, recent literature has shown neuroticism to be negatively related and extroversion positively related to well-being in older age (Costa & McCrae 1980, 1981). To the best of our knowledge, these findings had not been investigated with Swedish samples. Second, it is ironic that one of the common criticisms of the Swedish EPI, namely that it contains out of date language, makes it attractive for testing with older subjects.

Creativity

- Divergent thinking: alternative uses for a common object, daily newspaper (Guilford 1959).

- Divergent thinking: listing of uncommon leisure activities for pensioners (developed specifically for this study).

- Creativity questionaire (Smith et al. 1985).

A fair amount of research has been done on creativity in old age, but much of this work has been concerned with creative production. There are many studies which investigate the productivity rates between various aging professionals, e.g., comparing scientists with artists, or opera composers with architects, etc. (see, e.g., Dennis 1966, Lehman 1962). However, these studies have very little relevance to persons from more common occupations and are not concerned with the question of whether creativity is related to better adjustment in older age.

For the present study a general hypothesis was adopted which stated better adjusted pensioners would score higher in creativity and two measurements of divergent thinking were selected. The first is a standard measurement from the Guilford tests (1959). The subject is asked to write down, during a limited time, as many different uses as possible for a common object, e.g., a daily newspaper. A second divergent thinking task was designed especially for the study. In an attempt to find a task with more relevance to pensioners, the subjects were asked to write down, in a specified time, as many different activities they could think of that pensioners could participate in, except the most common ones, e.g., billards, knitting, etc. Together the two tasks were hoped to measure what might be termed 'creative approach to retired life'. Both measurements were scored for frequency, flexibility (number of separate categories of response), and originality (less than 1% frequency in the total data). Finally, a brief questionnaire was given containing items believed to be correlated with creativity, e.g., age of first memory, dreaming in color, etc. (Smith et al. 1985). Copies of these forms can be found in Appendix 1.

Cognition

- Verbal reasoning - 'opposites' (Härnqvist et al. 1956).

- Spatial reasoning - 'cubes' (Härnqvist et al. 1956).

These are standard time-controlled measures used in cognitive assessment. In the verbal reasoning task the subject is shown a word and must select the correct opposite from the adjoining list. For the spatial reasoning task, the subject views a series of figures containing various arrangements of cubes and must count the total number.

There has been much research on cognitive functioning and effects of age (see e.g., Helander 1967, Berg 1979, Savage et al. 1973, Wittig & Petersen 1979). The majority of this research has been concerned with differences in cognition between age groups (young vs. middle, vs. old). Concerning verbal and spatial reasoning it appears, even in old age, that males maintain superiority in the spatial areas. For verbal reasoning the general superiority of females has not been clearly evidenced in older age (Berg 1979, Harker et al. 1984).

There is little research which investigates the relations between cognitive functions and subjective well-being in older age. The only such data for Swedish persons was from Berg (1979) where he reported no significant correlations between, amongst other cognitive functions, spatial and verbal reasoning, and scores on a subjective scale of psychological well-being. The present study will have the opportunity to replicate these findings for a less homogeneous sample.

Emotional processing and problem solving

- The Basic Emotions Form, semantic ratings of one's feelings (Küller, unpublished stencil).

- The Conflict Situations Technique: A projective method for elderly persons (Watzke & Küller 1986)*.

Both these measurements were included based on Küller's model of man-environment interaction (1976, 1984). The model sees each person as having a basic emotional process which through activation, orientation, and evaluation of the various factors present in any given situation, a person attempts to retain control by means of various adaptive and/or compensatory mechanisms. The model proposes a secondary hypothesis which states that persons who experience greater feelings of control will exhibit greater 'openess' in a situation.

The emotions form attempts to measure the components of the basic emotional process using a set of semantic scales. The subject is asked to mark a point on a 7-point bi-polar scale of adjectives with regard to how he or she is feeling at that moment, e.g., angry - friendly, happy - sad, energetic - lazy. These responses are supposed to result in factor scores of major emotional dimensions. One of the most attractive reasons for selecting this measurement is that it gives a picture of the subject's emotional state in the testing situation, an important example of overt competence.

It should be mentioned here that a certain amount of research on personal control (i.e., locus of control, desired control, and expectancy of control) has been carried out showing a relationship between greater control and positive psychological adjustment in elderly persons (see, e.g., Reid & Ziegler 1980).

The Conflict Situations Technique is a projective method which presents drawings of a group of real-life situations containing potential conflicts of special relevance for retired persons. The technique's administration and scoring system combines both spontaneous and probe stages in an effort to investigate a subject's acknowledgement of problems, projections of emotions on the hero-figures, and solutions for conflicts seen in the drawings. In this report, the data from the technique will be viewed in a more global sense, looking at any

* *This technique's development is the focus of Part II of the present dissertation (Watzke & Küller 1986).*

relations between its scoring dimensions and other measurements in the assessment package. Because of the reality-oriented approach of the technique, the data from it will also be viewed as samples of overt personal competence, e.g., as predictions of how the retirees would function in actual conflict situations.

Finally, it is worth noting here, although the technique was not developed strictly within a psychoanalytic perspective, the data extracted from it can be readily interpreted from such a perspective.

Environmental attitudes

- The Swedish Environmental Response Inventory (Watzke 1986).

For the present assessment, which is concerned with living environments, it was considered appropriate to use an inventory designed especially for the measurement of environmental attitudes. Since this measurement is described in detail elsewhere*, only the barest outline will be given here. The Swedish version is an adaptation of McKechnie's original Environmental Response Inventory (1974) and attempts to measure a person's attitudes or dispositions using six scales: Stimulus Seeking, Urbanism, Antiquarianism, Mechanical Orientation, Need for Privacy, and Environmental Trust. The present study attempted to find any meaningful relationships between these attitudes and other psychological data; several hypotheses were formulated, e.g., better adjusted retirees were expected to score higher in Environmental Trust, just as the urban retirees were expected to score higher in Urbanism than their rural counterparts. These data are similar, in principle, to the personality data, in that attitudes are believed to be deeper, more consistent measures over time. They therefore belong to what in the theoretical model was called covert competence.

Attention-stress performance

- The Environmental Attention Technique (Watzke & Küller 1984).

A large amount of research has focused on various performance abilities and effects of age (see, e.g., Birren et al. 1980, Nebes & Madden 1983, Salthouse & Somberg 1982, Welford 1977, Rabbit 1979). Most of these studies compare (crossectionally or longitudinally) younger and older persons on a number of behaviors from simple reaction time to complicated automobile driving. However, very little of this research looks at 1) visual search, attention, or vigilance behavior for the elderly in simulated environments, 2) mild stress effects upon attention and signal detection in older persons, or 3) differences in such behaviors in terms of sex, living environment, or psychological adjustment.

* *The adaptation of this inventory to Swedish conditions is the focus of Part I of the present dissertation (Watzke 1986).*

For these reasons, the Environmental Attention Technique was adapted for use in the present assessment package. The technique is a simulation method which requires a subject to search and respond (push a button) to signals (grey rings) which are faded into color background slides of real-world environments. The technique takes into consideration a number of variables, e.g., content and complexity of the background slides, difficulty in detecting the signals, and the distracting influence of background noise. For the present study, the subjects viewed (after practice) four slides, two high-complexity urban and two lower-complexity rural. A background noise condition (traffic sounds) was also included.

In addition to the visual search task, the subjects were told they would be asked some questions about each of the environment-slides, i.e., the subjects were tested for their 'recognition' of the background slides after completing the visual search task. This was done by showing the subjects the slides actually used during the visual search task mixed with other (false) slides. The mode of response was the 'yes-no' type.

The complexity of the environmental design allowed several hypotheses. For example, urban retirees were expected to do better on the more complex urban slides, just as they were expected to be less affected by the noise variable. Since no similar data exists for older persons, hypotheses were formed on a rational basis. In terms of the theoretical model, this data can also be viewed as overt competence data, i.e., this is very much a situational-dependent measurement of an outcome behavior between personal competence and environmental press.

Time-budget

The collection of diary information is the basis of the time budget. There are several publications describing this method and its utility; the most comprehensive is Szalai (1972). Quite simply, time-budgets try to find out what persons are doing, who they are doing it with and where in their environment they do it. The collection of this type of data has been used with older persons, e.g., as a way to explore the relationships between activity levels and life satisfaction, describe lifestyles, and understand leisure activity patterns (see, e.g., Hooker & Ventis 1984, Moss & Lawton 1982, McGuire 1980).

For the present study, it was decided to send each subject home with a time-budget form to be filled in for their entire day following their test day, unless it was a Friday; in that case, their diary was for the next weekday. There are of course many drawbacks with this kind of data, e.g., people's carefulness at filling in the form can vary greatly, the best way to score the information is often unclear, and effects of social desirability are almost impossible to control for. Even so, this type of data is valuable because it takes us one step closer to understanding what evidence there is in the daily activities of our subjects to substantiate inferences made from the clinical test data. Such data has many potential uses. For example, suppose it was found in the personality measures that the

less well adjusted retirees scored higher in introversion. One could then go to the time-budget data and look at the frequency differences between the better and less well adjusted groups in, say, 'social contact activities'. Ideally, this would show the less well adjusted, more introverted retirees participating in fewer such activities.

Although the main purpose for collecting this data was to aid in the descriptions of pensioners' lifestyles which will be featured in the section concerned with cluster analysis and patterns of personal competence, some preliminary scoring and simple frequency analyses of the time-budget data have been completed, providing a somewhat unrefined, but nevertheless interesting picture of our retirees' daily activities, geographical ranges, and daily social contexts.

Items from the home interview form

Since the opportunity existed to go back into the home interview form from the large project, a group of items were selected to include in the forthcoming analyses with the assessment data. These items were:

1. Would you consider living in an old folks home when you are older?
2. Do you pursue anything now which you didn't have time for earlier?
3. Do you like to go out and enjoy yourself?
4. Are you usually quiet and withdrawn when you are with others?
5. Do you take any form of prescribed medicine on a regular basis?
6. How much television do you watch each evening?
7. How much sleep do you average per night?
8. How long have you lived in your present residence?
9. Social contacts: Three separate indices were calculated, one for number of persons in the household, one for how often the subject reported meeting his/her family or relatives, and one for how often the subject reported meeting others, e.g., neighbors, friends, and work mates.

Most of these items were selected on a rational basis because they were felt to be related to a number of different measurements or variables from the assessment package. For example, the item 'Do you like to go out and enjoy yourself' could be related to extroversion, introversion, a person's activity level, as well as attitudes of environmental trust, need for privacy, or stimulus seeking. Furthermore, responses to this item could be expected to vary according to adjustment, living environment, and sex.

Other items were chosen for exploratory value only. These are items which are believed to be important to pensioners (e.g., attitudes towards old folks homes, television watching, and intake of medicine) but have not been tested for their relations to such a wide range of variables as in the present study.

Procedure

The clinical testing took place in two different localities. The first testing was during April and May, 1984 in Malmö for the two large city areas, Lindängen and Rörsjöstaden/Sorgenfri West. Adequate rooms were arranged upstairs at a local senior citizens center. All subjects were called and scheduled for testing by the two assistants (two upper level psychology students, females, age 35 and 40).* The entire testing took approximately 4½ hours per subject, most days two subjects were tested, with a one or two hour overlap between the morning and afternoon session. The following test order was adhered to as much as possible, but those who have done such testing know there are always small modifications in reality.

Upon arrival of the subject, there was an introduction and explanation of the day's activities. First, the Basic Emotions Form was filled in while the subject was new to the testing situation. Next, the physiological measurements were taken. After that, the cognitive measures were given. A short break was taken, then came the Environmental Attention Technique. After a longer lunch break in the center's cafeteria, the creativity measurements, the Conflict Situations Technique, and the personality inventory were completed. Depending on the time and mood of the subject, the environmental attitudes form (Environmental Response Inventory) was filled in last or sent home along with the time-budget form. At the end of the session, each subject was debriefed and any questions were answered.

The testing for the remaining three areas (small city, Pantarholmen; agricultural, Holmsjö; peninsula/archipelago, Torhamn) took place in Karlskrona in June, July, and August, directly after the Malmö testing. The differences between the two testing localities in many ways mirrored the differences in the subjects' living areas. The view from the first locality was of a busy downtown intersection in a big city. The other testing locality was in a very old renovated brick building with views of the Baltic Sea just a few hundred meters away. The testing in the second locality was conducted in the same way, only another assistant was hired who was familiar with the dialects of the areas (female, age 27).* Also, we prepared the food and coffee for the breaks ourselves since it was vacation period and the center was not in full operation.

Before turning to the results of the study, some weaknesses in the execution of the assessment package will be mentioned. First, we would have preferred to conduct the clinical testing in one locality, with the same assistant, directly after the first phase home-interview. Equipment and limitations of other resources (e.g., time needed to select the subsample for the study) did not allow this. How affected are pensioners by seasonal changes in weather? Usually, April in

* *The author would like to express special thanks to Britt Karlsson, Monica Skarping, and Kristina Lundberg for their invaluable assistance during the clinical testing.*

southern Sweden is quite terrible compared to June. A possible consolation was that the weather from April clear through till September that year was consistently awful.

A final note concerns the fact that the chief experimenter, the present author, is not Swedish. Every day, during the testing, one or more persons asked me "Can you understand those pensioners or can they understand you?" These questions raise many important issues, and not just those concerned with command of a foreign language. I can only say that there was always a Swedish assistant on hand during the testing, so communication problems were minimal and always solvable. Other effects, e.g., attitudes towards foreigners, are much harder to judge. Many of the subjects had distant relatives in the United States so I was treated to some wonderful pioneer stories during the coffee breaks!

RESULTS AND DISCUSSION

The reporting of the results for the present study is necessarily cumbersome. When all told, the number of dependent variables approaches 100. An effort has been made to sort through the data and present them in as economical form as possible. This means substantial use will be made of tables. Furthermore, discussion of results will be given in the same section as the statistical presentation of the results.

In the first part of this section, a brief presentation is given of the results from the adjustment index. Since adjustment ranking was the basis for selecting subjects for the study and is one of the independent variables in the forthcoming analysis of variance, it is important to note any deviations in adjustment scores in the sample itself.

The second part of this section focuses on the results from a correlation analysis (Pearson's product-moment) as well as a 3-way ANOVA: place x sex x adjustment . These results are presented separately for each assessment area (physiological, personality, creativity, etc.). For the original tests or techniques in the package*, extra statistical analyses were performed, e.g., to investigate the relatedness of a set of factors or scales whithin a given instrument. Such results will be presented in the beginning of the subsection concerned with the given measurement. In general, only correlations reaching the .01 level of significance ($r>.25$, $N=115$) will be presented. In the discussion, emphasis will be placed on those correlations that were outstanding or unexpected. In general correlations which are best explained by examining main effects from the ANOVA will not be discussed. The ANOVA was BMDP 4V (Dixon 1981) and unless otherwise noted, the total N equaled 115 and the degrees of freedom were 1, 107. Only probabilities less than .05 will be presented. Here also, due to practical considerations, not every significant result will be discussed. In the end of the section, a summary is given focusing on the findings for place, sex, and adjustment for all the measurements combined. An effort will be made there to interpret the findings in terms of the theoretical model, i.e., what was learned about personal competence with regard to the three independent variables?

The adjustment scores

As can be seen, the picture for adjustment scores was not simple (Table 3). First, for the larger sample, there was a main effect for place ($F=7.6$, $Df=4,388$, $p=.000$). An examination of the means for place showed this to be a result of the much more positive scores from the peninsula/archipelago area in comparison to the other four areas. There was also a main effect for sex, the males displaying more positive adjustment scores (males $M=.13$, females $M=-.15$, $F=7.8$, $Df=1,388$, $p=.006$). Although there was no significant interaction, it is important to note that the females from the three urban areas seemed less well adjusted than their male counterparts. However, when it came to the two non-urban areas, no visible differences were

* *By original, we also mean those measurements which had not been used previously with older subjects.*

revealed between the sexes. Finally, for the males, it is worth noting that those from the large city outlying highrise, and peninsula/archipelago areas scored more positive than the males from the other three areas (Table 3).

Table 3. *Mean adjustment scores for the larger sample (N=398) and the sample for the assessment study (N=115).*

	1 LARGE CITY outlying highrise (Lindängen)		2 LARGE CITY central lowrise (Rörsjö/Sorgenfri)	
	larger sample	assess. sample	larger sample	assess. sample
FEMALES	-.48 (N=45)	-1.40 (N=9)	-.37 (N=30)	-.82 (N=4)
MALES	.24 (N=44)	.60 (N=11)	-.03 (N=44)	-.18 (N=5)
TOTAL	-.12 (N=89)	-.30 (N=20)	-.17 (N=74)	-.46 (N=9)

3 SMALL CITY central lowrise (Pantarholmen)		4 AGRICULTURAL single family (Holmsjö)		5 PENINS/ARCHIP single family (Torhamn)	
larger sample	assess. sample	larger sample	assess. sample	larger sample	assess. sample
-.26 (N=40)	-.08 (N=13)	-.08 (N=32)	.09 (N=13)	.53 (N=35)	.57 (N=13)
.04 (N=46)	.33 (N=21)	-.12 (N=43)	.25 (N=14)	.55 (N=39)	.86 (N=12)
-.10 (N=86)	.17 (N=34)	-.10 (N=75)	.17 (N=27)	.54 (N=74)	.71 (N=25)

Next, Table 3 also shows the adjustment scores for the smaller sample for the present study. Here, as mentioned earlier, one can see the effects of the selection strategy for the assessment study, i.e., the attempt to select subjects from opposite poles of the adjustment distribution. There was a significant difference between the living areas ($F=4.0$, $Df=4,105$, $p=.004$); the large city areas scored least positive, while the peninsula/archipelago group scored most positive of all. For sex, there was also a significant difference (males $M=.42$, females $M=.16$, $F=10.3$, $Df=1,105$, $p=.002$). A comparison of the means for the males from the larger sample and the assessment sample showed, as mentioned earlier, there was a selection effect in the smaller sample for males with more positive adjustment scores (larger sample $m=.13$, assessment sample $M=.42$). It should be noted that the number of subjects in the assessment sample from the large city central area was noticeably smaller than in the other four areas (N=9).

In conclusion, three results can be repeated. First, as hypothesized, the females from the large city areas scored least well adjusted of all groups. Second, the hypothesis which expected males to score more positive than females was confirmed for the urban groups, but not for the rural, where minimal differences were seen between the sexes. Third, it can be concluded that the adjustment scores of the group from the peninsula/archipelago area were most positive of all.

Correlation and analysis of variance (place X sex X adjustment)

Before turning to the results and discussion for this section, it should be noted that the living areas from the large and small cities were combined into one urban group (areas 1 + 2 + 3). The same was done for the two rural areas (areas 4 + 5). The decision to reclassify the living areas was based on a desire to have the largest cell numbers possible for the 3-way ANOVA. Exploratory analyses of variance supported the use of this simplified classification. The reader is advised however to keep this reclassification in mind throughout the report since it does hide, to a certain extent, any differences which exist between the two rural areas or the three urban ones, as was shown above. It should also be noted that the median adjustment score for the larger sample (see Figure 4, page 22) was used to classify subjects as better or less well adjusted for the 3-way ANOVA.

Physiological measurements (cortisol)

Cortisol levels were obtained for each subject. In the present case, the level of cortisol is believed to indicate a subject's general activation level for the period before he or she came in for the testing.

Cortisol levels revealed four significant correlations ($p<.01$). The first two were with the flexibility scores on the divergent thinking task, leisure activities ($r=-.26$), and the environmental attitude Antiquarianism ($r=-.30$). The other two correlations were between cortisol level and two of the social contacts indices taken from the home interview form, i.e., the total number of persons living in the subject's household ($r=.26$) and frequency of contact with family members ($r=.26$).

For the ANOVA, there was a main effect for sex. The males' level was considerably higher (males M=139, females M=82, $F=9.19$, $p=.003$). Because there is so little research on sex differences and cortisol in older persons, proper interpretation of this result awaits further research.

The first two correlations are probably a result of a sex difference, i.e., the females had lower cortisol levels, and as will be shown, had higher scores on the leisure activities task and the attitude scale Antiquarianism.

The second two correlations are of greater interest. The first one suggests that the married subjects had higher cortisol levels than those living alone. Since it was known that the males had higher cortisol levels, the first guess was that the sample contained more females living alone, but this was not the case. The second correlation showed that those subjects who reported having more frequent contact with their family and other relatives had higher cortisol levels. Together, these results suggest a relationship between higher physiological activation and more social contacts within the family for older persons. To the best of our knowledge, physiological evidence such as this has not been reported previously. The important question is whether or not a higher cortisol level should be interpreted as a positive outcome for the present sample. If this is the case, this finding has important implications for research concerned with

social relationships and well-being in older persons. An adequate answer to this question also awaits further research.

Personality traits (neuroticism, extroversion)

Table 4 shows the correlations with the three scales from the Eysenck Personality Inventory. As can be seen, both the Neuroticism and Extroversion scales revealed significant correlations with dimensions from

Table 4. *Correlations between the personality scales and other variables.*

NEUROTICISM		EXTROVERSION		LIE	
Higher strain[1]	.49	More openess[1]	.48	Positive evaluation[1]	.30
Poorer reported health[2]	.47	Higher stimulus seeking[3]	.38	Lower verbal reasoning (opposites)	.25
More need for privacy[3]	.30	No, doesn't feel any insecurities in becoming older[2]	.33		
Less environmental trust[3]	.28				
Lower control[1]	.26	Higher control[1]	.26		
Less openess[1]	.26				

1= Basic Emotions Form r=.25 (p=.01)

2= Home interview form

3= Environmental Response Inventory r=.32 (p=.001)

the newly developed Basic Emotions Form and Environmental Response Inventory. Another interesting correlation was that between positive emotional Evaluation and the Lie scale; this correlation will be discussed below.

The results from the ANOVA revealed four significant results. First, the urban group was higher on Neuroticism (urban M=9.2, rural M=7.3, F=5.8, p=.02). There were also main effects in Neuroticism for sex and adjustment, the females and the less well adjusted scoring higher (females M=10.4, males M=6.6, F=11.5, p=.001; less well M=11.6, better M=6.1, F=29.9, p=.000). Finally, there was an interaction between place and adjustment for Neuroticism which can be accounted for by a much larger difference between the better and less well adjusted in the urban areas than those from the rural (Table 5).

Table 5. *Mean scores for Neuroticism showing the place X adjustment interaction (F=6.27, p=.01).*

	Urban	Rural
Better adjusted	5.7 (N=33)	6.4 (N=35)
Less well adjusted	13.0 (N=30)	9.2 (N=17)

Concerning the correlations with Neuroticism, it can be said that most of the correlations are explained by effects of adjustment or sex. For example, it will be shown later that the less well adjusted were higher in emotional Strain and lower in Environmental Trust and emotional Control.

The correlations with the Extroversion scale are what might be termed "logical but not explained by main effects". These correlations are of more interest than those which are best explained by main effects in the design because they are more generalizable and increase ones confidence in the validity of a given measure. This is especially true when new measures, such as emotional Openess and Control show a logical correlation with an older well tested dimension such as Extroversion.

Finally, the correlation between the Lie scale and positive emotional Evaluation was considered interesting because it helped explain this sample's rather high scores on the Lie scale. Others have discussed the possibility that scores on lie scales represent subjects' attempts to present their ideal or most positive self, as opposed to faking or lying (see, e.g., Gibson 1962). The highest loaded adjectives from the positive pole of the Evaluation scale (friendly, happy, peaceful, secluded, and interested) can also be viewed as descriptions of ideal self. Thus it is reasonable to conclude that for this sample, higher Lie scores are related to the person's subjective view of his/her self, which may not be related to his honesty per se.

There has been much discussion about the value of Eysenck's conception of personality and his proposed factors (e.g., Carrigan 1960, Knowles & Kreitman 1965). For the present study, it will be assumed that neuroticism, as measured here, is related to minor nervous disorders, disorders which are manifest by, amongst other things, diffused anxiety, phobic reactions, and obsessive behaviors. Persons scoring higher in

neuroticism are prone to be more nervous, more worried, more anxious, more guilt-ridden, more moody, and more likely to report health related problems.

The main effects for Neuroticism were as expected. Females at all ages often score higher in neuroticism (Bromley 1966, Eysenck 1964). The effects for adjustment were in support of Costa and McCrae who have shown neuroticism to be negatively related to better adjustment (1980, 1981). However, the present findings indicate that such differences for adjustment are more observable in urban than in rural groups. We were not able to locate any studies which compare scores in neuroticism between urban and rural pensioners. Until there is evidence to the contrary, it can be accepted that the urban subjects in this sample have more of the neurotic tendencies described above in comparison to their rural counterparts.

Finally, it is worth mentioning that Costa and McCrae's findings which showed higher extroversion in males to be related to better adjustment in old age were not replicated in the present study (1980, 1981). It is conceivable that such findings are affected by cultural differences; it cannot be assumed that an extrovert pensioner in the U.S. is the same as one in Sweden.

Creativity/Divergent thinking (leisure activities, alternate uses of a newspaper)*

Because this testing domain contained measures not previously used with older subjects, it was important to investigate the relatedness of the individual dimensions. Table 6 shows that the four dimensions were highly correlated with the exception of the two measures of flexibility (r=.15). The scores of frequency and flexibility within each task were so highly correlated (r=.77, .75) it was concluded they were not measuring independent aspects of divergent thinking.

Table 6. *Correlations between the four measures of divergent thinking.*

	1	2	3	4
1. Leisure activities (frequency)	1.00			
2. Leisure activities (flexibility)	.77	1.00		
3. Uses of newspaper (frequency)	.45	.29	1.00	
4. Uses of newspaper (flexibility)	.25	.15	.75	1.00
	r=.19 (p=.05)	r=.25 (p=.01)	r=.32 (p=.001)	

* *The author would like to express special thanks to Marie Kristoffersson for help in scoring these data.*

Next, Table 7 shows the significant correlations between the four measures of divergent thinking and other variables. As can be seen, three of the measures were correlated with education level. However, most noteworthy were the correlations between the frequency measure on the leisure activities task and emotional Openess (r=.26) and feeling 'happy' (r=.28).

Table 7. *Correlations between the four measures of divergent thinking and other variables.*

LISTING OF LEISURE ACTIVITIES		ALTERNATE USES OF A NEWSPAPER	
Frequency scores:		Frequency scores:	
Education level	.36	Education level	.37
More openess[1]	.26	Verbal reasoning (opposites)	.33
Felt happy (as opposed to sad)[2]	.28	Flexibility scores:	
Flexibility scores:		Education level	.28
Lower cortisol level	.26		

1= Basic Emotions Form r=.25 (p=.01)
2= Home interview form r=.32 (p=.001)

Concerning the ANOVA, there were only two significant results. First, the urban group scored higher in flexibility for the newspaper task (urban M=3.1, rural M=4.0, F=4.7, p=.03). Second, females scored higher than males for the flexibility measures on the leisure activities task (females M=4.9, males M=4.0, F=4.7, p=.03). Originality scores were also calculated for the newspaper task; unfortunately, only 28 subjects listed uses at the 1% cutpoint. For these persons there were no sizable difference in terms of sex or adjustment ranking, but 18 of the 28 did come from the urban areas. Finally, an analysis of combined scores for both the divergent thinking tasks revealed no significant differences.

The divergent thinking measures were the most disappointing in the study. As mentioned earlier, the main purpose with these measures was to investigate the relationships between creativity or 'creative approach to retired life' and adjustment. Retirement was seen as a creative challange in terms of use of time, and especially leisure activities, i.e., better adjusted pensioners were expected to be better at generating more, different, and original ideas. There was

little or no evidence for confirmation of this hypothesis in the present study. In fact, it can be concluded that these measures were probably not measuring creativity so much as they were verbal ability . This is evidenced by the significant correlations with the verbal reasoning task and education level, as well as the lack of correlations with the creativity questions (Appendix 1). The fact that urban subjects scored higher than rural on the newspaper task might also be an effect of verbal ability - there was a tendency for the urban group to score higher in verbal reasoning ($F=3.3$, $p=.07$). As a way to remove effects of verbal ability, one can wonder what results would have been obtained if instead, the subjects were asked to check off those leisure activities from a long list of activities which they felt pensioners could participate in. This checklist could contain preconceived categories of leisure activities, e.g., masculine, feminine, typical, unusual; even impossible activities could be included.

Finally, the significant correlations between the leisure activities task and scores in emotional Openess and reported feelings of happiness could be taken as evidence in favor of a relationship between divergent thinking and better adjustment. This assumes feeling open and happy is indicative of better adjustment. However, it is just as plausible that scoring higher on the leisure activities task is simply a function of having a greater frequency of activities in ones daily life. It will be shown later that the females in the present study revealed a greater number of activities in their time-budget data, a finding which could account for the females' superiority on the leisure activities task.

Basic cognitive functions (verbal and spatial reasoning)

As expected, the two cognitive measures, verbal and spatial reasoning, were significantly related to each other ($r=.39$) and to educational level ($r=.32$, $.27$). Of special note is the significant correlations between both cognitive measures and Environmental Trust ($r=.35$, $.36$); an explanation for this will be offered below. All correlations with the cognitive measures appear in Table 8.

Table 8. *Correlations between the basic cognitive functions and other variables.*

VERBAL REASONING (OPPOSITES)		SPATIAL REASONING (CUBES)	
Spatial reasoning (cubes)	.39	Verbal reasoning (opposites)	.39
Higher environmental trust[1]	.35	Higher environmental trust[1]	.36
Stronger orientation[2]	.34	Less missed rings[4]	.31
Uses of a newspaper (frequency)[3]	.33	Education level	.27
Background recognition[4]	.33	Mechanical orientation[1]	.25
Education level	.32		

1= Environmental Response Inventory — r=.25 (p=.01)
2= Basic Emotions Form — r=.32 (p=.001)
3= Creativity/Divergent thinking
4= Environmental Attention Technique
5= Home interview form

The ANOVA revealed no significant main effects for the verbal reasoning task. There was, however, a significant interaction between place and sex (Table 9). As can be seen, the rural males scored markedly lower than all other groups

Table 9. *Mean scores showing the place x sex interaction for the verbal reasoning task, opposites (F=4.87, p=.03).*

	Urban	Rural
Females	42.8 (N=26)	45.5 (N=26)
Males	47.0 (N=37)	35.3 (N=26)

For the spatial reasoning task, there were two main effects. The urban group scored higher than the rural (urban M=24.2, rural M=21.5, F=4.4, p=.04) and males scored higher than females (males M=24.9, females M=20.6, F=9.7, p=.002). Finally, there was a significant sex by adjustment interaction (F=6.89, p=.01). As Table 10 shows, the less well adjusted females scored lower than their better adjusted counterparts.

Table 10. *Mean scores showing the sex x adjustment interaction for the spatial reasoning task, cubes (F=6.89, p=.01).*

	Females	Males
Better adjusted	23.0 (N=24)	24.2 (N=44)
Less well adjusted	18.6 (N=28)	26.6 (N=19)

First, regarding the correlations between the cognitive measures and the attitude scale Environmental Trust; it is tempting to see this as a highly interesting relationship, i.e., better cognitive functioning is related to higher trust in the environment (Watzke 1986). However, a closer look at the data showed there were tendencies for urban subjects to score higher in Environmental Trust and in the verbal reasoning task.* Furthermore, the urban subjects scored significantly higher on the spatial reasoning task. Thus, it appears the best casual explanation for these correlations comes from a difference between urban and rural subjects. A similar explanation accounts for the correlations between the cognitive measures and emotional Orientation and missed rings on the signal detection task. As will be shown later, urban subjects were significantly stronger in Orientation and missed fewer rings than their rural counterparts. Regarding other correlations, the one between the background recognition task from the Environmental Attention Technique and verbal reasoning was not expected but was welcomed because of its manifest sense. This correlation shows that both measures depend upon memory functions.

The main effects for verbal reasoning were in accordance with other studies which have shown no sex differences for older subjects (Harker et al. 1984, Berg 1979). However, the low scores of the rural males are noteworthy. A more detailed discussion of this finding will be given in the summary of this section concerned with the general findings for place, sex, and adjustment.

The males' superiority on the spatial reasoning task was expected (Berg 1979, Harker et al. 1984). The fact that the urban groups did better on the spatial reasoning task was less expected. Because the present assessment did not include more measures of cognition and intellectual functions, a clear explanation for this finding is lacking. However, one could speculate that the urban group's higher education level is one plausible explanation for this difference.

Of greater interest was the interaction between sex and adjustment which showed higher spatial reasoning scores for the better adjusted females. A check was made to see if a similar finding was obtained for the other cognitive measurement, verbal reasoning. As it turned out, there was also a large difference between the better and less well adjusted females (better adjusted M=47.1, less well adjusted M= 41.5) and relatively little difference between the males (better adjusted M=41.4, less well adjusted M=43.7). These findings suggest that cognitive abilities may be related to adjustment for females, but not males; which is not in agreement with previous Swedish studies which showed no relations between cognitive functioning and psychological well-being in older persons (Berg 1979).

* *P=.06 and .07, these values fell above the .05 outpoint, and were therefore not presented herein.*

Emotional processing (openess, strain, evaluation, control, orientation)

For the Basic Emotions Form it was necessary to do a factor analysis on the data since the form had never been used before with older aged subjects. The preferred solution was a 5-factor (oblique rotation) which accounted for 47 % of the total variance in the material. The five factors were interpreted as Openess, Strain, Evaluation, Control, and Orientation (see Appendix 2 for the items and factor loadings comprising each factor). Factor scores were calculated for use in the correlation analysis and ANOVA. Table 11 displays the significant correlations for the five factors. Of special note here was the fact that both the factors of Openess and Control revealed common correlations with the three variables Extroversion, Neuroticism, and the interview item "Are you usually quiet/withdrawn when you are with others". These and other correlations will be highlighted below.

Table 11. *Correlations between scores from the Basic Emotions Form and other variables.*

OPENESS (MORE)		STRAIN (MORE)		EVALUATION (POSITIVE)	
Extroversion	.48	Neuroticism	.49	Lie scale	.30
Leisure activities[1] (frequency)	.26	Need for privacy[3]	.25	Less urbanism[3]	.25
Less neuroticism	.26				
No, not quiet/withdrawn with others[2]	.25				
CONTROL (HIGHER)		**ORIENTATION (STRONGER)**			
Extroversion	.26	Verbal reasoning (opposites)	.34		
Less neuroticism	.26	No, doesn't consider living in an old folks home when older[2]	.33		
Less TV watching[2]	.26	Shorter length in present residence[2]	.25		
No, not quiet/withdrawn with others[2]	.25	Acknowledgement of problems[4]	.25		

1= Creativity/Divergent thinking r=.25 (p=.01)
2= Home interview form r=.32 (p=.001)
3= Environmental Response Inventory
4= Conflict Situations Technique

Concerning the ANOVA of factor scores, the rural group was significantly weaker in their emotional orientation compared to the urban, i.e., they felt more "unengaged and cautious", as opposed to "engaged and spontaneous" (rural M=-.19, urban M=.16, F=5.79, p=.02). Although there were no significant differences for sex, three of the factors revealed effects for adjustment. The better adjusted group felt less emotional strain (e.g., more calm than restless), higher emotional control (e.g., more effective than ineffective) and stronger emotional orientation (e.g., more engaged than unengaged). Table 12 shows the means, F-values, and p-values for these results.

Table 12. *Means of factor scores for better and less well adjusted groups on three of the emotional processing dimensions.*

STRAIN		CONTROL		ORIENTATION	
Better adjusted (N=68)	Less well adjusted (N=47)	Better adjusted (N=68)	Less well adjusted (N=47)	Better adjusted (N=68)	Less well adjusted (N=47)
-.34	.50	.30	-.43	.14	-.21
(F=17.7, p=.000)		(F=15.91, p=.000)		(F=5.94, p=.02)	

Finally there was a place by adjustment interaction which showed the differences for emotional strain between the better and less well adjusted groups to be most marked in the urban samples (Table 13). The discussion of this result will also be saved for the summary of results.

Table 13. *Mean factor scores on emotional Strain showing the place X adjustment interaction (F=4.36, p=.04).*

	Urban	Rural
Better adjusted	-.32 (N=33)	-.37 (N=35)
Less well adjusted	.78 (N=30)	.00 (N=17)

It is clear from the present data that the dimensions of emotional Openness, Strain, and Control are related to the measures of Neuroticism and Extroversion. It could be argued that emotional Strain, as measured here, is one 'state' of neuroticism; likewise for emotional Openess and extroversion. It should be noted however that the relations with neuroticism are confounded by effects of adjustment in the present sample.

A good question is whether there is a qualitative difference between feeling open or feeling control in a situation? Although these two factors were not significantly correlated (r=.16, see Appendix 2), their correlations with other items were similar. More data is required to answer this question adequately, but for now, it appears that being in control is more related to adjustment, whereas openess is better viewed as an outcome of better emotional control and adjustment. This formulation which gives control priority over openess is in accordance with the model upon which this instrument is based (Küller 1976, 1984).

Finally, in evaluating this instrument it can be concluded that the number of sensible main effects, especially with regard to adjustment, as well as the logical correlations with other pieces of data in the testing package suggest a picture of good convergent validity. These data are best viewed as indications of a subject's emotional processing, or in terms of the study's theoretical model, his/her overt emotional competence in a given situation.

The biggest weakness of this measurement, with regard to its use with older subjects, is its dependency on a 7-step semantic response scale. Several of the subjects asked for clarifications from the experimenter - "What do you mean by the word strong, big, at home, etc.". Also frequency analyses showed that the majority of the subjects were polar in their responses style, making very little use of the possible finer gradations in the scales.

Problem solving (the Conflict Situations Technique)

Concerning the projective measures, the reader should refer to Watzke & Küller (1986) for a more complete description of the technique's scoring dimensions and results.* It should however be mentioned that twelve drawings were used in the present study and that for most of the scoring dimensions, a subject could obtain one point per drawing.**

* *This data was not collected for 16 of the 115 subjects, thus N=99, degrees of freedom =1,91.*

** *The exception was the dimension which scored solutions offered to problems projected in the drawings. Because not all drawings were seen to contain problems, this was scored as a percentage.*

The number of significant correlations between the technique's scoring dimensions and other variables were quite few. First, for acknowledging problems in the drawings, there was a correlation with stronger orientation from the Basic Emotions Form (r=.25). Next, a greater number of identifications in the drawings was correlated with a negative response on the interview form item "I like to go out and enjoy myself" (r=-.29). Also, a greater number of deflated pleasantness ratings of the drawings was correlated with "feeling anxious" (interview item r=.25). Finally, a greater percentage of solutions to problems acknowledged in the drawings was significantly correlated to three items from the interview form: Less television viewing per evening (r=-.27); higher reported participation from a list of common leisure activities (r=.29); and better health (from the self-report checklist, r=.25). Explanations for all these correlations can be found by a careful examination of the effects for adjustment or place in the present sample.

Regarding the ANOVA, first there was a significant effect for place. The urban group used a greater number of first-person pronouns (identifications) while responding to the drawings (urban M=2.2, rural M=1.2, F=11.36, p=.001). There was also a main effect for sex, females offering more identifications than males (females M=2.3, males M=1.4, F=4.49, p=.04).

For adjustment, there were four significant results. The better adjusted acknowledged more problems in the drawings, projected a greater number of positive emotions upon the hero-figures and responded with a higher percentage of solutions for those problems acknowledged in the drawings. Furthermore, when asked to rank the drawings for their pleasantness on a semantic scale, the better adjusted gave fewer ratings below the total sample's mean (deflated pleasantness ratings). The means, F-values, and p-values for these results are shown below in Table 14.

Table 14. *Means for better and less well adjusted subjects on four of the dimensions from the Conflict Situations Technique.*

Acknowledged problems		Positive hero-emotions		Percentage of solutions		Deflated pleasantness ratings	
Better adjusted (N=68)	Less well adjusted (N=47)	Better adjusted (N=68)	Less well adjusted (N=47)	Better adjusted (N=68)	Less well adjusted (N=47)	Better adjusted (N=68)	Less well adjusted (N=47)
4.5	3.6	2.8	2.1	82.8 %	72.7 %	2.2	2.7
(F=4.4, p=.04)		(F=4.3, p=.04)		(F=5.32, p=.02)		(F=4.94, p=.03)	

Finally, for precentage of solutions, there was an interaction between place and sex ($F=7.49$, $p=.01$); the urban males came up with more solutions to problems in the drawings than the urban females (82.8% vs. 75.5%), while the opposite was true for the rural group (females 87.6%, males 69.3%).

The Conflict Situations Technique is more difficult to evaluate as a method because its administration and scoring system is both more unique and complicated than the other measures in the assessment package. This points to one criticism of projective data, i.e., the difficulty of relating the results to concrete qualities in a person's behavior. The present technique attempts to avoid this problem by trading some of the apperceptive potential in the technique for more reality-based information, e.g., using more realistic stimulus drawings, more structured probing, etc. The technique is intended to investigate conflict-solving abilities in older persons which is undoubtedly a complicated process. The scoring dimensions used with the technique attempt to dissect this process so it can be investigated in a systematic way. In fact, the results from five of these dimensions revealed significant and theoretically pausible differences, especially with regard to better and less well adjusted subjects. These results are similar to other types of T.A.T. data which throughout the years, have been claimed as evidence of better psychological health from the perspective of psychoanalysis (see, e.g., Shneidman 1951, Bellak 1975).

However, the present results can be criticized on one important point. They suffer from what might be called the 'quantification of qualitative data'. One result of this is statistical means which may be significant, but are hard to judge in terms of psychological importance. What does it mean if one group acknowledged five problems in the 12 drawings while the next group acknowledged only four, or if the better adjusted had solutions for 83 percent of the problems in the drawings while the less well adjusted had only 73 percent? In other words, the statistical treatment of this data takes into account the form of subjects' conflict-solving processes, but not the specific content. It is worth noting that the technique is currently being used in a study of 200 retiring women in Malmö, and that both the form and clinical content of subjects' problem-solving processes will be analyzed (Küller & Steen, forthcoming).

Environmental attitudes (the Environmental Response Inventory)

As mentioned earlier, these data are based on subjects' factor scores from a Swedish version of the Environmental Response Inventory (McKechnie 1974). Since these findings are reported in detail in Watzke (1986), only a summary will be given here. Table 15 shows the correlations between the six environmental attitudes and other variables.

Table 15. *Correlations between the factor scores on the Environmental Response Inventory and other variables.*

STIMULUS SEEKING		URBANISM		ANTIQUARIANISM	
Extroversion	.38	Shorter length in present residence[2]	.47	Lower cortisol	.30
Worse background recognition[1]	.27	No, doesn't consider living in an old folks home when older[2]	.38	Yes, fears having an accident[2]	.27
		Less sleep per night[2]	.27		
		Negative evaluation[3]	.25		
MECHANICAL ORIENTATION		**NEED FOR PRIVACY**		**ENVIRONMENTAL TRUST**	
Spatial reasoning (cubes)	.25	No, doesn't like to go out and enjoy himself[2]	.33	Spatial reasoning (cubes)	.36
		Neuroticism	.30	Verbal reasoning (opposites)	.35
		Higher strain[3]	.25	Less neuroticism	.28
				No, doesn't have a big need to have friends around[2]	.26
				Better reported health[2]	.25
				Younger age	.25
				Fewer missed rings[1]	.25

1= Environmental Attention Technique r=.25 (p=.01)

2= Home interview form r=.32 (p=.001)

3= Basic Emotions Form

Many of the correlations have been noted in earlier parts of this section or can be understood by studying the effects of the independent variables. It is however worth repeating that the three correlations with Need for Privacy as well as the correlation between Stimulus Seeking and Extroversion were logical and not explained by effects of place, sex, or adjustment. Also of particular interest were the correlations between Environmental Trust and the subject's age (r=-.25) and the home interview item "Do you have a big need to have friends around"(r=.26) - these results will be discussed below.

For the ANOVA of the factor scores, a total of seven significant effects were revealed. First, the urban subjects scored higher in Urbanism (urban M=.32, rural M=-.79, F=47.2, p=.000). Next, four of the

scales revealed differences according to sex. The females scored higher in Antiquarianism (e.g., appreciation of old objects, history, and browsing in bookstores), while the males were higher in Stimulus Seeking, Mechanical Orientation, and Environmental Trust (Table 16). Finally, the better adjusted subjects scored higher than their less well adjusted counterparts on the Environmental Trust scale (better adjusted M=-.26, less well adjusted M=-.83,F=6.4, p=.01).

Table 16. *Mean factor scores for males and females on four of the scales from the Environmental Response Inventory.*

Antiquarianism		Stimulus Seeking		Mechanical Orientation		Environmental Trust	
Females (N=52)	Males (N=63)	Females (N=52)	Males (N=63)	Females (N=52)	Males (N=63)	Females (N=52)	Males (N=63)
.07	-.44	-.69	-.32	-.40	.49	-.88	-.18
(F=6.1, p=.02)		(F=5.3, p=.02)		(F=22.8, p=.000)		(F=8.3, p=.01)	

Scores on the Environmental Trust were correlated with the highest number, and broadest range of other variables in our data. The Environmental Trust scale contains at its negative pole items such as "I often feel lonely when I am by myself; I'd be afraid to live in a place where there were no people nearby; It is dangerous nowadays to live in a large city". It was known that older persons score lower on the scale and this is viewed as an effect of older age and increased feelings of physical vulnerability (Watzke 1986). Further supprt for this was shown here where even within a five year age range, age was correlated with the scale, i.e., younger pensioners reported more trust. The correlation between Environmental Trust and the item "Do you have a big need to have friends around" can be interpreted in a similar manner. Those who have greater trust don't feel as great a need to have friends around, whereas those lower in trust do, i.e., there is safety in numbers. These findings as well as the scale itself are relevant for the growing amount of research concerned with fear of crime and the elderly (see, e.g., Goldsmith & Goldsmith 1976, Yin 1980, Ward et al. 1984b, Lebowitz 1975).

Concerning an evaluation of the Swedish version of the Environmental Response Inventory, the results from the present study suggest a positive appraisal. The correlational data as well as the number of significant

results which made theoretical and manifest sense suggest that the inventory is useful for testing older persons. This is especially important since the inventory measures environmental attitudes, an aspect of older persons' covert competence which very little is known about.

Attention-stress performance (the Environmental Attention Technique)

The collection of data from the environmental attention technique was plagued by technical difficulties.* As it turned out, the electronic equipment controlling the slide projectors was quite sensitive to changes in electrical current. This resulted in potentially unreliable attention/reaction time values between data collected in the two different testing localities. Our solution for this problem was to calculate two indices which are based on performances within each subject. The first index attempted to measure the effect of visual complexity in the background slides by taking the mean of each subject's values on the two higher complexity slides (urban environments) divided by their mean value on the two lower complexity slides (rural environments). The other index measured the effect of the background noise in the same manner by taking the values on the two slides from the noise condition (one urban and one rural environment) divided by those from the no-noise condition (one urban and one rural slide).

A third, more global measurement, the number of missed rings,** was also calculated and is best viewed as a measure of overall attention and vigilance performance for all the experimental conditions. This measure was considered more or less unaffected by the malfunctioning equipment. Finally, the fourth variable, number correct on the background slide recognition task, was considered unaffected by the malfunctioning equipment and therefore analyzed as originally planned. The correlations between these four measures appear below in Table 17.

The table shows the two reaction time indices were significantly correlated (r=.37). This result is difficult to interpret because learning effects may have affected results from one or both of the indices. It can, however, be said that the two separate effects were similar for the subjects, i.e., those who were more affected by the noise variable were also more affected by the complexity of the background slides, and vice versa.

* *Data was lost on 9 subjects during equipment repairs, thus N=106, degrees of freedom =1,98.*

** *A total of 72 rings (signals) appeared during the task, 18 per background slide. The rings appeared at random time intervals in 18 different locations. Each ring was visible approximately 8 to 10 seconds, depending on the contrast against its specific background.*

Table 17. *Correlations between the four measures of attention and stress performance.*

	1	2	3	4
1. Missed rings	1.00			
2. Visual complexity index	.08	1.00		
3. Noise effect index	.03	.37	1.00	
4. Background recognition task	-.19	-.14	-.13	1.00
	r=.19 (p=.05)	r=.25 (p=.01)	r=.32 (p=.001)	

The four measures from the technique showed relatively few correlations with other variables. Higher scores of the background recognition task were correlated with higher scores in verbal reasoning (r=.33) and lower scores in Stimulus Seeking (r=-.24). The first correlation was discussed earlier as evidence of the dependency of both measures on memory function, whereas the second is best understood by the differences between males and females. A greater number of missed rings was negatively correlated with the spatial reasoning task (r=-.31) and Environmental Trust (r=-.25). Together, these correlations suggest an interesting relationship between environmental memory, vigilance behavior, and environmental trust, something one might term "environmental cognizance".

No significant differences were obtained for the effects of visual complexity or noise with regard to place, sex, or adjustment. There were, however, two main effects for the number of missed rings for the four slides combined; both the rural and the less well adjusted groups missed a greater number of rings (rural M=2.6, urban M=1.7, F=5.1, p=.03; less well adjusted M=2.6, better adjusted M=1.8, F=4.7, p=.03).

The Environmental Attention Technique, as it was used in the present study, is perhaps most difficult to evaluate because this data is based on a more original and complicated experimental method (Watzke & Küller 1984). As mentioned earlier, one of the biggest problems for the data collection was the malfunction of the electrical equipment; this meant the amount of useful information to be extracted was greatly reduced. For example, there was no possibility to compare individuals' absolute attention times, i.e., how fast they were at reacting to the signals across all the background slides.

What can be concluded about these four measures? First, the background noise was without affect. This can simply be due to the fact that a rather low decibel level was chosen for this variable. The intention was to simulate a mild stress situation, e.g., similar to being in a downtown situation or driving a tractor. Next, for visual complexity of the background slides, there were no significant effects in terms of subjects' timed vigilance performance. Here again, this was dependent on the moderate degree of difficulty set for the signal detection task; the pilot testing as well as a desire to create a vigilance task which our pensioners could experience a reasonable amount of success with led us to set the difficulty level rather low.

The measure of missed rings did reveal main effects for place and adjustment and this is best viewed as an effect of visual complexity (89% of the missed rings were from the higher complexity, urban slides). The fact that rural subjects missed more rings was supportive of the hypothesis which expected them to have more difficulty with the complex urban slides. It was also sensible that the less well adjusted displayed less effective vigilance behavior. However, these effects are representative of small differences in statistical means, approximately one more missed ring between groups. Once again, one must consider what form such effects might take in a pensioner's life with regard to real vigilance behavior. For example, not pushing the button in time for ones stop on a bus trip may be a fairly inconsequential event, whereas not responding to a traffic signal in time while driving an automobile can have serious consequences.

Finally, with regard to the slide recognition task, one significant main effect, three logical correlations with the measures from the signal detections task, as well as a significant correlation with the verbal reasoning task allows a positive appraisal of this variable. This variable was intended to be an indication of environmental cognition, more specifically, memory for environments. Here again, the differences in means were quite small, so the importance of this finding must be considered in terms of its implication in the real lives of pensioners. Nevertheless, it is interesting that the females did better than the males on this task; discussion of this will be taken up in the summary concerned with total effects for place, sex, and adjustment.

Time-budget (activities, geographical ranges, social contexts)

Our expectations with the time-budget data were limited by intention. For our purposes, a more global record of daily activities from our pensioners was considered adequate. This was reflected by our acquistion of only a single day's record from each subject as well as a time division on the actual recording form into 15 minute blocks, i.e., we did not ask the subjects to make very specific accounts of real time spent on each activity. This means that the relationship between frequency of an activity and actual time consumed cannot be assumed to be perfect, e.g., three coded frequencies of television watching may consume more time than three visits to the bathroom. It can however, be assumed that more frequencies according to our coding system is indicative of more occupation with the given activity.

Three types of results will be presented here.* First, frequencies of activities for our groups will be presented according to place, sex, and adjustment for the entire day (Table 18). These should be viewed as aggregrate measures, the variance between individuals within each group and relative contribution of specific activities are not discernible here. Table 18 also shows the activities divided into routine (e.g., eating, cleaning, shopping for food), active (e.g., volunteer work, crafts, taking courses), passive (e.g., reading, television, radio listening), and social contact (activities which have social contact as a goal in itself, e.g., visiting a friend, calling one's children on the phone).

Table 18. *Mean frequencies of activities for the subjects divided by place, sex, and adjustment. Each frequency represents one activity for an unspecified time duration; the total is for one entire day (total N=110).*

	PLACE		SEX		ADJUSTMENT	
Activity category	Urban (N=61)	Rural (N=49)	Females (N=52)	Males (N=58)	Less well (N=45)	Better (N=65)
Routine	15.3 (47%)	18.0 (55%)	18.5 (52%)	14.7 (50%)	17.1 (52%)	16.1 (50%)
Active	3.3 (10%)	2.5 (8%)	3.4 (10%)	2.7 (9%)	3.5 (11%)	2.8 (9%)
Passive	6.7 (21%)	5.8 (18%)	6.7 (19%)	6.1 (21%)	6.5 (20%)	6.3 (19%)
Social	3.3 (10%)	2.6 (8%)	3.5 (10%)	4.3 (15%)	3.4 (10%)	2.9 (9%)
Other	3.7 (12%)	3.9 (11%)	3.7 (9%)	1.7 (5%)	2.4 (7%)	4.2 (13%)
Total	32.3 (100%)	32.8 (100%)	35.8 (100%)	29.5 (100%)	32.9 (100%)	32.3 (100%)

As can be seen, the largest difference was between total activities for the males and females ($t=6.6$, $p<.001$). It also appeared that the rural group in comparison to their urban counterparts, were more occupied with routine activities for their day as a whole ($t=2.8$, $p<.01$). It is worth noting that no large differences were visible in frequency of activities between the better and less well adjusted groups. This is in

* *The author would like to express special thanks to Karin Liedberg for coding this material.*

accordance with recent studies by Berg (1979) and Bonacci (1984) which showed no relationship between activity levels and well-being. Unfortunately, the present data was not suited for testing hypotheses concerned with the relations between subjective experiences of one's activities, e.g., their perceived meaningfulness or pleasantness, and well-being in older age (Lawton 1983, Teaff et al. 1984).

The second type of time-budget data concerns the geographical range of the pensioners. It was possible to code the locations of all recorded activities and then classify these locations according to home (in the home) or secondary territory, which is not in the home but in the next immediate range (e.g., garage, workshop, garden). This category also included people's summer cottages and individually owned 'colony gardens', which are often not in the immediate geographic range but are considered private spaces. The third classification was termed 'public', e.g., others' homes, the senior citizens center, the grocery store, etc. Table 19 shows these frequencies, which because they are scored in connection with activity levels, are best viewed as percentages of the total, i.e., to see the most meaningful frequencies for each subaggregate (for this data, this is only a problem for sex since the females had a higher total activities frequency).

Table 19. *Mean frequencies for geographical ranges for the subjects' entire day, according to place, sex, and adjustment (total N=110. The geographical ranges were scored in connection with their respective activities, thus the total mean equals the total mean for frequency of activities).*

	PLACE		SEX		ADJUSTMENT	
Geographical range	Urban (N=61)	Rural (N=49)	Females (N=52)	Males (N=58)	Less well (N=45)	Better (N=65)
Home	21.3 (66%)	22.2 (68%)	26.9 (75%)	17.0 (58%)	23.1 (70%)	20.7 (64%)
Secondary	4.3 (13%)	6.2 (19%)	3.8 (11%)	6.4 (21%)	4.3 (13%)	5.8 (18%)
Public	6.7 (21%)	4.3 (13%)	5.1 (14%)	6.1 (21%)	5.5 (17%)	5.8 (18%)
Total	32.3 (100%)	32.8 (100%)	35.8 (100%)	29.5 (100%)	32.9 (100%)	32.3 (100%)

Here, as expected, the most visible difference was between the males and females, the latter spending a larger percentage of their day in the home ($t = 5.1$, $p < .001$). Other results, although not large, showed expected differences in the various groups' lifestyles. For example, the rural group spent more of their day in the secondary territory compared with the urban pensioners; the opposite was true for the time spent in the public range.

Finally, each activity was also scored in terms of social context. Using the classification of 'alone' or 'with others', frequencies were calculated for each of the independent variables (Table 20).

Table 20. *Mean frequencies for social context for the subjects' entire day, according to place, sex, and adjustment (total N=110. The social contexts were scored in connection with their respective activities, thus total mean equals the total mean for the frequency of activities).*

	PLACE		SEX		ADJUSTMENT	
Social context	Urban (N=61)	Rural (N=49)	Females (N=52)	Males (N=58)	Less well (N=45)	Better (N=65)
Alone	18.8 (58%)[1]	21.8 (66%)[1]	24.4 (68%)[2]	16.3 (55%)[2]	23.6 (72%)[3]	17.8 (55%)[3]
With others	13.5 (42%)	11.0 (34%)	11.4 (32%)	13.2 (45%)	9.3 (28%)	14.5 (45%)
Total	32.3 (100%)	32.8 (100%)	35.8 (100%)	29.5 (100%)	32.9 (100%)	32.3 (100%)

1. $t=2.04$, $p<.05$ 2. $t=2.70$, $p<.01$ 3. $t=5.3$, $p<.001$

The most striking difference here was for the adjustment groupings, i.e., the less well adjusted carried out a greater percentage of their daily activities alone (72% vs. 55%). This finding is in accordance with Lawton who reported a relation between spending more time alone and lower personal adjustment (Lawton 1983, p. 55). This data also suggests that the females as well as the rural subjects are conducting a greater percentage of their day's activities while alone. The fact that males spent more of their day with others is interpreted as supportive of findings which showed older males to be higher on a subjective scale of affiliation in comparison to females (Berg 1979). Finally, one obvious question concerning the results for social context is whether there were differences in household population between the groups. The ANOVA for that variable showed no such differences.

Home interview items

The correlations between the items selected from the interview form and other variables have been presented above in connection with the separate measures from the assessment study; for this reason they will not be presented here.

Regarding the ANOVA, the following significant results were obtained. First, the rural subjects said they would be more willing to live in an old folks home someday (urban M=1.4, rural M=2.4, 1=no, 2=uncertain, 3=yes, F=34.6, p=

.000); liked to go out and enjoy themselves more (urban M=2.0, rural M= 2.5, F=7.24, p=.01); and reported sleeping more than the urban subjects (M=7.25 hours vs. 6.57, F=8.02, p=.01).

The better adjusted group, to a greater extent, reported pursuing things which they did not have time for earlier (better adjusted M=2.4, less well adjusted M=1.4, F=5.6, p=.02), not being quiet and withdrawn with others (better adjusted M=1.5, less well adjusted M=2.0, F=6.2, p=.01), and sleeping more than their less well adjusted counterparts (M=7.2 hours vs. 6.4, F=9.6, p=.002). The better adjusted also reported viewing less television (M=120 minutes vs. 158, F=6.9, p=,01) and using less prescribed medication (better adjusted M=1.4, less well adjusted M=1.7, F=9.5, p=.003). Regarding television viewing and sleeping it is interesting to note that the less well adjusted urban males reported watching, by far, the most television (M= 212 minutes/evening) while the less well adjusted subjects from the urban areas reported sleeping at least one hour less than all other groups (M= 5.9 hours/night).

The number of years of present residence was known to vary greatly between the urban and rural subjects, but a significant place by adjustment interaction was also obtained (Table 21).

Table 21. *Means showing the place X adjustment interaction for number of years in present residence (F=7.7, p=.006).*

	Urban	Rural
Better adjusted	12.9 (N=33)	31.5 (N=35)
Less well adjusted	10.4 (N=30)	42.7 (N=17)

In effect, this data shows that the better adjusted subjects in the city have lived longer in their present home than their less well adjusted counterparts. The opposite was true in the rural areas. This effect was most pronounced for the urban females (better adjusted M=20.1, less well adjusted M=10.8). This finding does not agree with other Swedish findings which reported no relationship between length of residense and adjustment in older age (Berg 1979).

Finally, it should be noted that none of the three indices of social contact were significantly affected by place, sex, or adjustment. This was in accordance with Swedish and other findings which have shown social parameters, especially quantitative measures, to be unrelated to well-being in older age (see, e.g., Berg 1979, Conner et al. 1979, Ward et al. 1984). Unfortunately, there were no direct measures taken in the present study to address the subjective quality of social contacts.

Summary of the effects for place, sex, and adjustment

As we turn to summarizing the results from the analysis of variance, the reader is reminded that these findings are based on samples of pensioners from certain living areas and that the statistical treatment of this data necessarily removed some of the differences which exist within each of the larger categories called urban and rural.

Place

What can be said about the test differences between the urban and rural subjects? First of all, there were differences for at least one measure from each of the testing domains, except for the physiological (Table 22). Looking first at those measures which are more covert or trait-like, the urban pensioners scored higher in Neuroticism, were higher in cognitive abilities, and more urban in their environmental attitudes. The urban group was also better at one of the divergent thinking tasks. Regarding the remaining findings, those related to overt competence or the more situation dependent measures, the urbanities displayed more Identifications (Conflict Situations), had a stronger emotional Orientation, and missed fewer rings during the vigilance task. However, a closer look at the findings was required because of the interaction effects, particularly those between place and sex, i.e., for verbal reasoning and percentage of solutions (Conflict Situations). An important conclusion is suggested by an examination of all the significant findings divided by place and sex.

The rural males scored consistently, and in many cases, substantially lower than the other three groups. In other words, with the exception of the Neuroticism scores, the differences between the urban and rural males were always larger than the differences between the urban and rural females. What does this mean? Simply stated, the rural males did not 'test well' and there is convincing evidence that this was due to their inability to meet the performance requirements of many of the tasks in the present test package. As a group, the rural males did have lower verbal reasoning abilities and educational levels, which must be viewed as a deficit for paper and pencil tests. Another problem was their more negative disposition towards the testing session, as evidenced by their weaker emotional orientation at the outset of the session. Weaker Orientation is characterized by the adjectives 'unengaged, uninterested, and cautious'. An important question here is how important was this apparent testing reaction in terms of the rural males' personal competence? Can it be concluded their competence

Table 22. *Summary of significant differences (ANOVA) between the urban and rural subjects.*

Domain	Measurement/Variable	Main effect	p	Interaction	p
Physiological					
Personality	Neuroticism	Urban > Rural	.02	Place X Adjustment	.01
Creativity/ Divergent thinking	Flexibility (newspaper task)	Urban > Rural	.03		
Cognition	Verbal reasoning			Place X Sex	.03
	Spatial reasoning	Urban > Rural	.04		
Emotional processing	Orientation (weaker)	Rural > Urban	.02		
	Strain			Place X Adjustment	.04
Problem solving	Identifications	Urban > Rural	.001		
	% of Solutions			Place X Sex	.01
Environmental attitudes	Urbanism	Urban > Rural	.000		
Attention-stress	Missed rings	Rural > Urban	.03		
Interview form items	(Yes) likes to go out and enjoy himself	Rural > Urban	.01		
	(Yes) considers living in an old folks home when older	Rural > Urban	.000		
	Sleep per night	Rural > Urban	.01		
	Length of present residence	Rural > Urban	.000	Place X Adjustment	.01
	Education level	Urban > Rural	.01		

is equal to the urban males if the 'right' environmental press is applied, e.g., different tests, a familiar testing locale, etc? To help understand this question, the urban and rural males' scores on Extroversion; Openess, Strain, and Control (Basic Emotions); and Need for Privacy (environmental attitude) were examined. These data showed no marked differences.

In many ways, the testing session itself can be viewed as a challenge of environmental press. With its reliance on verbal and writing skills, searching for rings in complex urban slides, and trying to come up with solutions to conflicts in a set of drawings, it is safe to conclude the rural subjects were to a greater extent "out of their environment". It is interesting to note that the rural males were most affected and least able to generate the resources to meet this press. This is an important finding concerning one aspect of personal competence, namely the ability to adapt to new, and in this case, fairly demanding challenges from the environment. This however should not be confused with another important outcome of personal competence being studied here, namely, adjustment to aging. It appears that the rural males' test performance has relatively little bearing on their reported psychological well-being and contentment with their life. This is especially so for cognitive abilities and several of the other tasks in the present assessment.

Finally, the question should be addressed: Who is doing better, those out in the country or those in the city? If 'better' is taken as being better adjusted to aging, it appears for the two groups as a whole, the rural are doing better. An even more important question is why the rural subjects seem to be better adjusted. The present assessment hoped to answer this question, but offers relatively little direct evidence on this matter. It can be concluded that personality differences are an important factor, i.e., the rural subjects' lower levels of neuroticism. A second conclusion can be inferred from considering the relatively poorer test performance of the rural subjects. It is ironic, but another reason the rural subjects are doing better is because they don't often participate in assessment studies such as this one! By this we mean the rural subjects have lifestyles which fit in terms of environmental press and personal competence, and as long as this fit is left basically undisturbed, one can expect the rural pensioners to continue to show better adjustment than their urban peers. The present study can be viewed as a single example of what happens when the fit is momentarily disturbed.

This argument implies an incongruency, or unsatisfactory fit, for the less well adjusted pensioners from the city. Here again, there was sparse evidence for such incongruence from the present testing. However, if one accepts that the press in the urban environment is greater than in the country, it can be argued that this greater press is more taxing to persons who are more neurotic; i.e., there is more there to worry about, be nervous about, etc. This hypothesis was supported by the urbanites' higher level of emotional strain, especially the females. The question of well-being in the country vs. the city is a complicated one. Furthermore, there are undoubtedly other important factors not directly assessed in the present study, e.g., differences in the quality of social support systems in the urban and rural environment (see, e.g., Daatland 1986).

Sex

Before discussing the main sex differences, it should be remembered, as shown here, that the differences between males and females can vary substantially from one living environment to another.

Table 23. *Summary of significant differences (ANOVA) between the male and female subjects.*

Domain	Measurement/Variable	Main effect	p	Interaction	p
Physiological	Cortisol	Males > Females	.003		
Personality	Neuroticism	Females > Males	.001		
Creativity/ Divergent thinking	Flexibility (leisure activities task)	Females > Males	.03		
Cognition	Verbal reasoning			Place X Adjust.	.03
	Spatial reasoning	Males > Females	.002		
Emotional processing					
Problem solving	Identifications	Females > Males	.04		
	% of Solutions			Place X Sex	.01
Environmental attitudes	Stimulus Seeking	Males > Females	.03		
	Antiquarianism	Females > Males	.02		
	Mechanical Orientation	Males > Females	.000		
	Environmental Trust	Males > Females	.01		
Attention-stress	Total correct (background recognition task)	Females > Males	.004		
Interview form items					

Most of the differences between the males and females were as expected (Table 23). The males were expected to score lower in Neuroticism and perform better on the spatial reasoning task. The results from the environmental attitudes inventory were also expected, i.e., the males' higher scores in Stimulus Seeking, Environmental Trust, and Mechanical Orientation. Likewise for Antiquarianism, where the females were expected to score higher. Furthermore, the females' higher scores on the divergent thinking task (listing of leisure activities) can be understood by that task's dependency on verbal abilities and evidence from the time-budget data which showed the females were engaging in more activities in their daily lives.

The most unexpected result was the females' superior performance on the background recognition task from the attention-stress test. There is evidence of females in this age group being better at 'picture recognition', but it is not clear whether or not such findings should be related to the recognition task in the present study (Harker et al. 1984). Is there any reason to think the female subjects should be better at remembering environments? Lacking a more plausible explanation, the following will be offered. It could be argued, e.g., based on females' lower scores in Environmental Trust, higher reported fears of assault, etc., that older females feel especially vulnerable in the public environment. It would therefore be advantageous for them to acquire better location sense and environmental memory. This is in fact a testable hypothesis.

What can be concluded about the test differences between the sexes? First and foremost, the differences in Neuroticism and Environmental Trust point to two important shortcomings in the females' covert competence. These two results also provide the best evidence (from the assessment data) for the same females' generally poorer reported adjustment to aging, especially the poorest adjusted group of all, the urban females. In the present study, although there were differences in a number of competence domains between males and females, these differences did not provide an adequate explanation for the most important outcome here, namely the poorer adjustment of the females.

The growing number of studies showing poorer adjustment and psychological well-being in older females points to the importance of discovering the more specific factors accounting for this. It is no longer adequate to simply point to higher levels of neuroticism, or e.g., life-long sex roles, as an explanation. Two findings here suggest possible avenues of research on this question. First, it was shown that there are female pensioners who view their lives in a more positive light - these females are more likely to be living in the rural environment. Their competence, lifestyles, and environment should be studied further to see what accounts for their relatively better well-being. The final part of this report on competence patterns represents beginning efforts in this direction.

Second, there was evidence suggesting that higher cognitive functioning is related to better adjustment for this sample of females. This hypothesis should be studied further using more thorough batteries of cognitive tests to see if such a relationship holds. If so, this is encouraging considering future cohorts of aged females will have higher levels of education. Furthermore, it has been shown that cognitive abilities for older persons today are increasing in comparison to past generations (Berg 1979).

Adjustment

The greatest number of significant effects were obtained for the adjustment groupings (Table 24). Once again, it is useful to categorize these results according to covert and overt competence. Regarding the measures more related to covert competence, the better adjusted scored lower in Neuroticism and higher in Environmental Trust. However, it should be remembered there was a place by adjustment interaction for Neuroticism which showed the differences between the better and less well adjusted groups to be greater in the urban areas than in the rural. This result reflects the greater differences in adjustment in the sample between the urban and rural areas as measured by the adjustment index. Whether this wider gap in adjustment is generalizeable to other samples of pensioners in Sweden is difficult to say. For the present sample, this difference in adjustment range was at the negative pole of adjustment, i.e., a poorer adjusted pensioner from the city was likely to be more poorly adjusted than the poorer adjusted pensioner from the country. The present data also suggested that a well adjusted pensioner from the urban environments is likely to be about equal in adjustment when compared to his/her well adjusted counterpart in the rural areas. These relationships in adjustment scores were reflected in other pieces of the assessment data as well, e.g., the interaction for place and adjustment in emotional Strain.

Regarding the overt measures, the better adjusted revealed a healthier picture of emotional processing, evidenced by their lower Strain, higher Control, and stronger Orientation. For the problem-solving measures from the conflict situations data, the better adjusted also revealed data indicating better psychological health, i.e., more acknowledgement of conflicts/problems, more solutions to those conflicts, more projected positive hero-emotions, and more pleasant ratings of the situations as a whole. Furthermore, the better adjusted performed better under stress, as evidenced by fewer missed rings on the signal detection task.

Further support of the effects of adjustment was seen in the interview items. For example, the better adjusted reported doing more things as pensioners they didn't have time for earlier, watching less television, sleeping more each night, and using less prescribed medicine. Of special note among the interview items was the place by adjustment interaction for these subjects' present length of residence. What was new about this finding was its suggestion that living for a longer number of years in the same place in the rural environment could be related to poorer adjustment in older age. This finding suggests interesting possibilities for further studies. For example, much attention has been paid to problems of relocating elderly persons, but maybe there are adverse long range effects of being too rooted, or living in too stable of an environment. Understimulation has been studied extensively in the institutional environments for the elderly; it would be interesting to see if those research strategies could be applied to a less controllable environment such as the rural neighborhood.

Table 24. *Summary of significant differences (ANOVA) between the better and less well adjusted subjects.*

Domain	Measurement/variable	Main effect	p	Interaction	p
Physiological					
Personality	Neuroticism	Less well > Better	.000	Place X Adjust.	.01
Creativity/ Divergent thinking					
Cognition	Spatial reasoning			Sex X Adjust.	.01
Emotional processing	Strain	Less well > Better	.000	Place X Adjust.	.04
	Higher control	Better > Less well	.000		
	Stronger orientation	Better > Less well	.02		
Problem solving	Acknowledged problems	Better > Less well	.04		
	Positive hero-emotions	Better > Less well	.04		
	% of Solutions	Better > Less well	.02		
	Deflated pleasantness ratings	Less well > Better	.03		
Environmental attitudes	Environmental Trust	Better > Less well	.01		
Attention-stress	Missed rings	Less well > Better	.03		
Interview form items	(Yes) does things now, didn't have time for earlier	Better > Less well	.02		
	Television per evening	Less well > Better	.01		
	Sleep per night	Better > Less well	.03		
	(Yes) uses prescribed medicine	Less well > Better	.003		
	(Yes) quiet/withdrawn with others	Less well > Better	.01		
	Length of present residence			Place X Adjust.	.01
	Education level	Better > Less well	.01		

In conclusion, there was much logical evidence in the present data supporting hypotheses about differences between better and less well adjusted pensioners. The better adjusted were expected to 'test' better and they did; they should have the resources to meet the press of a new and challenging situation, as represented by the testing session itself. Most importantly, the results showed a congruency between the measures of covert and overt competence across a number of psychological domains. This allows acceptance of the most general hypothesis of the theoretical model, namely that persons with greater personal competence will be better able to adapt to demands placed on them from the environment, even more generally, from life itself. Furthermore, it can be assumed the 'fit' between their personal competence and lifestyles as pensioners is better for the better adjusted, irrespective of living area or sex. This is one of the topics addressed in the final section on patterns of personal competence.

PATTERNS OF PERSONAL COMPETENCE

In this section an attempt will be made to give a more personal description of so called competence patterns found in the present sample of retirees. These descriptions are based primarily on the results of the cluster analysis. In cluster analysis, a different view of the data is taken; quite literally, one turns things around . This statistical technique is quite common today and is especially useful, as in the present case when one has a large number of data variables from a relatively small number of persons. The aim of the analysis is to, first, find out which persons (if any) have displayed similar ways of responding to the measurements, and second, identify the particulars of the response pattern that characterized those persons. There are many varieties of cluster analysis, we selected a parametric technique of the Q-factor analysis type (Everitt 1974). In an ideal analysis, one obtains a suitable number of factors containing both positively and negatively loaded person-clusters. Furthermore, the response patterns characterizing each factor would be meaningful and clearly interpretable. In reality, this is rarely the case. Concerning the present analysis, three decisions should be noted. First, analyses for females and males were done separately. Second, the data variables were edited for their statistical appropriateness (e.g., good frequency distribution) and for their potential meaningfulness in the forthcoming interpretation; this left a total of 80 variables. Third, exploratory analyses suggested an optimal structure of four factors for the present data.

In the interpretation and discussion of the results from the cluster analysis an effort will be made to bring to life, so to speak, the typical males and females from each cluster and to paint a picture of their salient personal characteristics as well as their lifestyles. These vignettes are not based on a single person's data but are syntheses of selected pieces from the data files from those two or three most typical representatives of a cluster; thus a certain amount of literary license was taken in their assembly. Substantial use was made of the home interview form and time-budget data to enhance the interpretations of the cluster groups. Furthermore, it is important to understand that no one person fits a given pattern perfectly. The purpose here is not to describe any one person or group in a statistical sense, nor is it the intention to verify the validity of the patterns presented here. Instead, this portion of the report is better viewed as a more qualitative, clinical presentation of the results from the study as a whole, i.e., what are these pensioners "really" like?

Before turning to the presentation of the cluster for the females a few comments about the way the results are presented in the tables throughout this section are in order. The top portion of the tables presents the oppositely loaded person clusters for the factor. To avoid the possibility of confusing references to positive or negative clusters with the positive and negative aspects of adjustment to aging which are critical to the discussion, all clusters will be referred to as the 'first' (that cluster to the left in the table) or the 'second' (that cluster to the right in the table) or by their numerical label (1A, 1B, 2A, etc.). Regarding the background characteristics in the tables, it should be under-

stood,with the exception of the subject's age, these were not included as variables in the cluster analysis. Adjustment score refers to the subject's score on the adjustment index presented in earlier sections of the report. Finally, looking at the bottom half of the table, one finds those variables most descriptive of each factor; the variable descriptions are arranged so they align with the first cluster - it should be understood that the response pattern of the second cluster is in the opposite direction for each variable.

Females Factor 1: "To be or not to be well adjusted to older age"

As can be seen in Table 25, the two clusters from this factor clearly differ on the two background variables,age and adjustment score. Concerning living area, the first cluster (1A) contained subjects from all the areas except the large city, whereas the most typical females from the second cluster (1B) turned out to be almost exclusively from the urban areas. It is also worth noting that more than half of those from the second cluster were living alone, without a mate. Furthermore, all the females from the first cluster were workers outside of the home before retiring.

The most salient background characteristic for this factor was adjustment; this is not surprising considering adjustment rankings were the basis for selection of the sample as a whole. Let us begin with a profile of the typical well adjusted female pensioner (Cluster 1A). First of all, she is most likely to come from the smaller city or either of the rural areas in the present study. This woman married and had children but probably not more than two or three. She accepted the traditional sex-roles of her generation, but not to the extent of being 'stuck' in the home as a full time nurturer. She probably valued education and this was a means to find a job which involved a degree of responsibility and more likely much contact with people, e.g., teaching or customer service for a company. This woman is not shy and her extroversion is a key to her character. As a pensioner, she is active; even if she lives in the country she is participating in study circles, goes out to eat, and takes day trips to see an art exhibition. For our sample, she is also younger and not likely to have any health problems worthy of mention.

Her typical day as a pensioner will of course vary depending on her living environment. If she's from the city, she probably wakes about 8.30 and takes her time enjoying breakfast, the newspaper, and the company of her husband. After breakfast she might leave the apartment, e.g., to visit a friend who is in the hospital (where she also talks with other patients). Then back to the apartment for a little lunch after which she will write a letter or two in the afternoon and maybe call one of her children just to say hello. After dinner with her husband, the television is likely to be on, but she works on her crossword puzzle at the same time. Then in the mid-evening, she and the husband could have one or two couples over for a visit, maybe to play cards, maybe just for the easy company. Her day ends with some reading and a glass of milk.

Our well adjusted pensioner in the country is up earlier (6.30) and is bound to spend her summer day divided between the kitchen and her garden, taking plenty of breaks for coffee and food. Then in the afternoon, she

Table 25. *Results from the cluster analysis for females, Factor 1. This factor accounted for 11.8% of the total variance (4 factors, oblique rotation).*

CLUSTER 1 A						CLUSTER 1 B					
	Background characteristics						Background characteristics				
Loading	Living area	Age	Occ. status	Marital status	Adjust. score	Loading	Living area	Age	Occ. status	Marital status	Adjust. score
.73	3	61	3	5	1.2	.68	3	70	1	5	-1.9
.56	5	61	3	3	1.6	.65	1	70	1	5	-0.9
.55	3	65	3	5	1.2	.61	2	70	3	5	-1.2
.53	4	63	3	5	0.9	.57	2	71	3	1	-0.6
.45	3	63	3	5	1.0	.52	1	68	2	3	-3.7
.44	4	65	3	5	1.4	.46	4	68	2	3	-1.2
						.44	1	62	3	2	-1.4

Living area: 1= large city (Lindägen), 2= large city (Rörsjö/Sorgenfri), 3= small city (Pantarholmen), 4= agricultural (Holmsjö), 5= peninsula/ archipelago (Torhamn)

Occupational status: 1= home manager, 2= worked outside home (less than 10 years), 3= worked outside home (more than 10 years)

Marital status: 1= never married, 2= separated or divorced, 3= widowed 4= living with a mate, 5= married

Loading	Variable description	Variable source
2.26	Higher activity level	Home interview form
1.97	No, doesn't feel insecurities in becoming older	"
1.89	Less neuroticism	Eysenck Pers. Inventory
1.65	No, not worried will be sick someday...	Home interview form
1.63	Less emotional strain	Basic Emotions Form
1.55	Better reported health	Home interview form
1.54	Feels more rested (as opposed to tired)	"
1.54	Feels more openess	Basic Emotions Form
1.53	Yes, likes to go out and enjoy herself	Home interview form
1.50	No, is not quiet/withdrawn with others	"
1.47	Feels more self-certain (as opposed to uncertain)	"
1.44	Lower education level	"
1.40	Higher on the leisure activities task	Creativity/Div. thinking
1.38	Is younger in age (for this sample)	
1.38	Higher in extroversion	Eysenck Pers. Inventory

might take a long walk in the forest, alone, picking mushrooms or wild berries. Back home, dinner is a tradition, which she gladly prepares for her husband. After dinner, chances are she will call a girlfriend and ask her if she would like to go for a bicycle tour or a walk, which is followed by a cup of coffee at either of their homes. By 9.00 pm she is getting to the end of her day which might include an hour of television in the company of her husband.

What both these types have in common is clear: They are well adjusted to aging and their lifestyles as pensioners reflect their high personal competence and a healthy appreciation of being retired after many years of full time work outside the home.

The less well adjusted female pensioner from this factor (Cluster 1B) is most likely to live in any of the three urban areas, especially the large city. Her adopted role as an adult was most likely one of nurturer, her identity coming from the traditional housewife role, devoting most of her energy to her husband and children. She did not obtain more than the minimal education and if she worked outside of the home it was only because of special circumstances, e.g., loss of her husband by death or divorce.

As a pensioner, her psychological well-being is not good; this is evidenced by her insecurity in becoming older and high levels of neuroticism. For this sample, she is older, and an overriding factor in her life is her poor health, which is more than likely to be characterized as psychosomatic, e.g., general weakness in the body, worries and anxiety, or undefined pains in the stomach or dentures. She often rests during the day and her life as a pensioner is not one filled with public activity. This is probably a product of her poor health, more introverted personality, and lack of creative abilities when it comes to leisure activities. This pensioner spends a lot of time in her apartment and a large part of that time is spent in the kitchen where she strives to maintain her value as nurturer to her immediate family, especially to her grandchildren.

Another version of this pattern is what has been called the 'unemployed nurturer' (Jacobs 1976) which means her nurturing role was fractured by widowhood or divorce. This cluster had an equal number of such females, all of whom never re-engaged in a long-term relationship. Many of these women traded their domestic work for a menial or production line job, e.g., as a cleaning woman or a worker in a textile factory. The evening life of these women is predictable. They are not going out or receiving many visitors and television watching is their main activity. They may not admit their loneliness to a psychologist, but it can be assumed to play a role in their clear picture of poor adjustment.

Females Factor 2: "Country wives - happy lives"

For the second factor, only the first cluster (2A) will be presented because the second cluster contained so few persons with high loadings (Table 26). This cluster showed a high degree of uniformity in its defining background characteristics - most of the females here came from the agricultural area, Holmsjö; were older in age (for the present sample),

Table 26. *Results from the cluster analysis for females, Factor 2. This factor accounted 6.8% of the total variance (4 factors, oblique rotation).*

CLUSTER 2 A						CLUSTER 2 B					
Background characteristics						Background characteristics					
Loading	Living area	Age	Occ. status	Marital status	Adjust. score	Loading	Living area	Age	Occ. status	Marital status	Adjust. score
.70	4	70	3	5	-0.1	.43	3	62	3	2	0.6
.54	4	69	1	5	0.6	.41	5	61	3	3	1.6
.49	4	67	2	1	0.4	.33	1	62	3	3	-1.3
.49	5	67	1	5	1.3						
.43	4	69	1	5	0.6						
.42	4	68	3	5	-0.2						

Living area: 1= large city (Lindägen), 2= large city (Rörsjö/Sorgenfri), 3= small city (Pantarholmen), 4= agricultural (Holmsjö), 5= peninsula/ archipelago (Torhamn)

Occupational status: 1= home manager, 2= worked outside home (less than 10 years), 3= worked outside home (more than 10 years)

Marital status: 1= never married, 2= separated or divorced, 3= widowed 4= living with a mate, 5= married

Loading	Variable description	Variable source
2.19	Higher average pleasantness ratings	Conflict Situations Tech.
1.94	Has lived longer in present residence	Home interview form
1.94	Acknowledged fewer problems	Conflict Situations Tech.
1.85	Is older in age (for this sample)	
1.78	Projected fewer negative hero-emotions	Conflict Situations Tech.
1.68	Fewer identifications	"
1.67	Felt more happy (as opposed to sad)	Home interview form
1.65	Less environmental trust	Env. Response Inventory
1.60	Yes, considers living in an old folks home...	Home interview form
1.52	Yes, fears having an accident	"
1.52	Yes, plans in advance to make through week	"
1.49	Sleeps more per night	"
1.42	Lower in urbanism	Env. Response Inventory

were married, and scored above the median on the distribution of adjustment.

What is special about the most typical female from the cluster? Her psychological and physical health is without special characteristics. The most outstanding fact about her life is environmental - she has lived in the country, most likely the same neighborhood, for all her life. Actually, she has lived in her present home for 30-40 years! She has been a country girl, a country woman, a country wife, and is now a country pensioner. The fact of her rural background has suited her well, one result being her tendency to look on the bright side of life. She does not look for or want to solve complicated emotional problems or conflicts - she prefers a smooth running, happy home. In short, she has lived a long, stable, satisfied life away from all the stress of urban living, something she doesn't like, identify with, or even think much about.

Her daily life as a pensioner is predictable - lots of family service, baking, gardening, and other chores. She has frequent contact during the day with her husband, and it has probably been so even prior to the retirement years. She has very few conflicts with her role as a wife; i.e., this is a well-adjusted nurturing woman. She is also aware of the community events and will gladly sign up for a party at the local school. She meets her children and other relatives at least three or four times a month, maybe daily if they live close by. Finally, she plans to survive into the future, with a smile, even if in her old age she should end up living in a nursing home.

In conclusion, this cluster is represented by females who have a good fit between their pattern of personal competence and their environment. This is believed to account for their better than average adjustment in old age.

Females Factor 3: "Sour but competent"

Here as in Factor 2, one of the clusters was considered too weak to merit interpretation and discussion. The second cluster (3B), however, was stronger, containing five persons with loadings greater than .40 (Table 27). This cluster revealed a more complicated pattern. The most typical representatives can be found anywhere among the living areas. Their occupational status and age are also variable. They are most likely married or divorced, thus they probably have children. What then, is typical of a woman from this cluster?

First of all, she is not happy or well adjusted to aging, as evidenced by her admitted dissatisfaction with her life as a pensioner. Three specific qualities stand out with regard to her personal competence: she is intelligent, is not socially withdrawn, and her physical health is poor. The interaction of these qualities probably best explains her rather 'grumpy' disposition. This woman should not be confused with the less well adjusted females from Factor 1 (Cluster 1 B), for she is more

Table 27. *Results from the cluster analysis for females, Factor 3. This factor accounted for 6.2% of the total variance (4 factors, oblique rotation).*

CLUSTER 3 A						CLUSTER 3 B					
	Background characteristics						Background characteristics				
Loading	Living area	Age	Occ. status	Marital status	Adjust. score	Loading	Living area	Age	Occ. status	Marital status	Adjust. score
.52	5	65	1	5	1.1	.57	5	67	1	5	-0.2
.35	3	63	3	5	0.8	.44	1	63	3	2	-1.9
.35	4	67	1	5	0.9	.43	5	65	1	5	-0.9
.33	4	65	3	5	1.4	.44	1	66	3	2	-1.8
						.41	5	65	2	5	-0.8

Living area: 1= large city (Lindägen), 2= large city (Rörsjö/Sorgenfri), 3= small city (Pantarholmen), 4= agricultural (Holmsjö), 5= peninsula/ archipelago (Torhamn)

Occupational status: 1= home manager, 2= worked outside home (less than 10 years), 3= worked outside home (more than 10 years)

Marital status: 1= never married, 2= separated or divorced, 3= widowed 4= living with a mate, 5= married

Loading	Variable description	Variable source
2.39	Says she is better off than 10 years ago	Home interview form
2.16	Lower on the leisure activities (flexibility)	Creativity/Div. thinking
2.08	Lower in the newspaper task (frequency)	"
2.07	No, there are no interests I haven't time for...	Home interview form
2.03	Yes, is generally satisfied with her existence	"
1.89	Lower in verbal reasoning (opposites)	Cognition
1.67	Better reported health	Home interview form
1.60	Watches less television	"
1.55	Rated own health better than peers	"
1.51	Yes, is quiet/withdrawn with others	"
1.44	Yes, wants to stay in present residence...	"

intelligent and self aware, less neurotic, and more extroverted. Most importantly, she is bothered by illness which is more likely to be physical (as opposed to psychosomatic), e.g., diabetes or a bad hip. In other words, this pensioner's poorer adjustment has a dimension of frustration; she wants to be more busy than her body will allow, she wants to move from her present residence , etc.

The typical woman from this cluster is easy to remember because she showed up for the assessment study with the attitude "OK, let's get this over with I've got to get back to my not so great life". She then proceeded to do fine on all the tasks and in most cases left the session not near as sour as when she arrived, which offers some insight into her problems. One had the imporession she lacked attention, and the stimulation which could challange her level of competence. Another view of this is she didn't achieve many of the ideals she may have held as a younger woman, and now older age, especially her failing health, has added salt to the wound. Furthermore, this is an observation she is capable of making about herself as she sits home at night a bit bored, watching television. How typical is this pensioner in society? This is hard to anwser, but our guess is: rather frequent! The next time an older lady comes up to you on a train or bus and tells you to move your purse so she can sit down and rest her bad leg, and then proceeds to engage you in an intelligent conversation, you have probably met her.

Females Factor 4: "The widow vs. the never-married"

It is fairly well documented that being a widow in older age is far from equivalent to being never married (see, e.g., Rubinstein 1984). Some of the differences are obvious, e.g., the never-married do not have children and they cannot experience the loss of a spouse.* Other findings are less obvious, e.g., the fact that never-marrieds report lower levels of loneliness, especially females (Rubinstein 1984).

The present study only included nine widows and five never-married females, but as expected, the never-married were better adjusted according to the adjustment index (never-married M=.48, widows M=-.90). Even though Factor 4 accounted for the least amount of variance in the data, it was decided to extract descriptions of the two clusters because the most typical subjects from the first cluster (4A) were widows, while the most typical subject from the second cluster (4B) was a never-married (Table 28). In effect, the description of the widow which follows is based on only two subjects while the one of the never-married is based on only one. It therefore should be understood that these descriptions are more appropriately viewed as single case studies, and are not offered as being typical of widowed or never-married females,not even those in the present study. Nevertheless, it was considered

* *The Rubinstein article does suggest however that the never-married do experience deep losses from other significant persons, e.g., parents, relatives, or friends.*

Table 28. *Results from the cluster analysis for females, Factor 4. This factor accounted for 5.4% of the total variance (4 factors, oblique rotation).*

CLUSTER 4 A						CLUSTER 4 B					
	Background characteristics						Background characteristics				
Loading	Living area	Age	Occ. status	Marital status	Adjust. score	Loading	Living area	Age	Occ. status	Marital status	Adjust. score
.67	3	69	3	3	-0.4	.56	5	67	3	1	0.8
.47	5	70	3	3	-0.2	.49	2	70	3	5	-0.9
.41	3	64	3	5	-1.0	.44	4	68	2	2	-1.2
.37	3	67	3	2	-0.4						

Living area: 1= large city (Lindägen), 2= large city (Rörsjö/Sorgenfri), 3= small city (Pantarholmen), 4= agricultural (Holmsjö), 5= peninsula/ archipelago (Torhamn)

Occupational status: 1= home manager, 2= worked outside home (less than 10 years), 3= worked outside home (more than 10 years)

Marital status: 1= never married, 2= separated or divorced, 3= widowed 4= living with a mate, 5= married

Loading	Variable description	Variable source
2.21	Lower in spatial reasoning (cubes)	Creativity/Div. thinking
2.18	Lower on leisure activities task (frequency)	Cognition
2.14	Sleeps less per night	Home interview form
2.01	Lower in verbal reasoning (opposites)	Cognition
1.92	Higher in extroversion	Eysenck Pers. Inventory
1.86	Yes, likes to go out and enjoy herself	Home interview form
1.84	Yes, has trouble falling asleep	"
1.79	Lower in environmental trust	Env. Response Inventory
1.67	No, doesn't feel insecurities of becoming older	Home interview form
1.64	Feels more anxious (as opposed to secure)	"
1.59	Yes, more intake of prescribed medicine	"

worthwhile to report the differences in competence patterns from the present data for these cases.

The widows had at least two children and had not been widowed long, less than three years. Their picture of personal competence according to the present study, was complicated. They were lower in cognitive abilities, were more extroverted, and admitted to certain anxieties, yet they claimed to not feel any types of insecurities of old age. They were also lower in Environmental Trust, and more frequently reported having trouble falling asleep. Finally they were more likely to be taking prescribed medicine.

One impression is that the widows' extroversion may be a bit false, a type of cover for the anxieties of widowhood. One the other hand, their extroversion can be seen as a fairly good adaptive mechanism, given that they are fairly recently widowed and their chances of meeting another man or simply avoiding loneliness are better if they are more outgoing. Regarding the widows' daily activities, they were not socially isolated. They were likely to have at least two coffee sessions with friends each day and if their children lived in the same area, one or the other was likely to show up for lunch or dinner a minimum of once a week. Finally, the widows in this cluster said they like to go out and they probably do.

In contrast, the never-married female was better adjusted than her widowed counterpart. She was also more intelligent and introverted. Furthermore, her occupation was probably more meaningful to her than most females her age. For example, she might have had her own tailoring business, or clothing boutique. As a pensioner her health is likely to be better than the widow's, she was not taking prescribed medicine and she reported sleeping better at night. In short, she is satisfied, but not ecstatic with her rather quiet lifestyle, which often includes a lot of reading and travelling. It is wrong to assume that never-marrieds are socially isolated - far from it (Rubinstein 1984). The never-married female in this cluster had at least one close friend whom she met on a daily basis, often for a shared meal.

Does she regret not having gotten married? The answer to that is maybe, maybe not (Rubinstein 1984), but in either case by the time she is seventy years old that issue has been resolved to the extent that it is not a factor affecting her adjustment.

It has been said many times before, but a simple statement best summarizes the descriptions presented from this factor: the never-married choose to be single, widows don't.

Males Factor 1: "Happily married - Not so happily unmarried"

As expected, the strongest factor revealed the most striking differences in cluster groups for the males (Table 29). Concerning background characteristics, three differences can be seen. The first cluster consisted predominatly or persons from the urban areas, while the second cluster had mostly persons from the rural area, Holmsjö. Second, there was a clear difference in marital status between the two clusters, the first contained mostly

Table 29. *Results from the cluster analysis for males, Factor 1. This factor accounted for 8.2% of the total variance (4 factors, oblique rotation).*

CLUSTER 1 C						CLUSTER 1 D					
Background characteristics						Background characteristics					
Loading	Living area	Age	Occ. status	Marital status	Adjust. score	Loading	Living area	Age	Occ. status	Marital status	Adjust. score
.67	1	62	1	5	0.8	.58	2	65	1	1	-2.2
.57	1	69	3	5	1.2	.58	4	65	1	1	-1.9
.55	3	68	1	5	1.6	.56	4	69	1	3	-0.4
.54	1	65	1	5	1.4	.44	4	66	1	1	-0.5
.51	3	69	1	3	1.0	.43	4	69	1	1	-0.3
.51	5	66	1	5	1.2	.40	3	69	1	2	-2.8
.43	1	68	2	5	1.0						

Living area: 1= large city (Lindängen), 2= large city (Rörsjö/Sorgenfri), 3= small city (Pantarholmen), 4= agricultural (Holmsjö), 5= peninsula/ archipelago (Torhamn)

Occupational status: 1= blue collar, 2= white collar, civil employee, 3= own boss

Marital status: 1= never married, 2= separated or divorced, 3= widowed, 4= living with a mate, 5= married

Loading	Variable description	Variable source
1.90	More openess	Basic Emotions Form
1.83	More environmental trust	Env. Response Inventory
1.76	Higher extroversion	Eysenck Pers. Inventory
1.74	No, doesn't often feel lonely	Home interview form
1.69	No, not quiet/withdrawn with others	"
1.56	No, doesn't feel insecurities of becoming older	"
1.56	Felt rested (as opposed to tired)	"
1.53	No problems falling asleep	"
1.47	Yes, smokes	"
1.44	Higher on the newspaper task (flexibility)	Creativity/Div. thinking
1.41	Higher in verbal reasoning (opposites)	Cognition
1.37	Stronger orientation	Basic Emotions Form
1.37	No, not afraid of being sick someday...	Home interview form

married subjects while all the representatives from the second were single, divorced, or widowed. The third difference was in terms of adjustment ranking; the first cluster was much more positive than the second. In the descriptions which follow the better adjusted, married extrovert from the city (Cluster 1C) is contrasted with the not so well adjusted unmarried introvert, who in the present study is most likely to reside in the country (Cluster 1D). The typical competence patterns of these two male groups mirror the results for the better and less well adjusted for the sample as a whole (Table 24), only for the males, extroversion seems to be related to being better adjusted (Costa et al. 1981).

The typical well adjusted married urban extrovert from this cluster is in fairly good health even if he smokes. He is not a lonely person, he sleeps well at night, and is able to express himself verbally without problem. He is secure both with himself and the environment he lives in. His daily life is likely to be a busy one and he probably has hobbies which make use of his skills from his previous employment. He is certain to be with his wife by the evening when they share dinner, some television, and possibly a visit from friends. Before going to bed, he is likely to do some form of reading. In conclusion, this pensioner fits other patterns of healthy adjustment which have appeared in the literature, e.g., 'integrated' (Neugarten et al 1968) and 'mature' (Reichard et al. 1962).

The contrasting pensioner, the unmarried introvert in the country, necessarily has a different lifestyle from the urbanite described above. For example, he is not expected to have a wife to drive into town or grandchildren to babysit. It is worthwhile to speculate on his poorer adjustment. A closer look at his profile suggested his health is not very good. High bloodpressure or other aches and pains are not uncommon to his cluster; this is not a suprise for a man who has done manual types of labor consistently for 30-40 years. These men are easy to recall because they showed up for the testing looking a bit tense and tired, but they did not complain - introverts!

His daily life as a pensioner is not lethargic, he has plenty of chores to fill his days. The difference for this pensioner is most clearly shown in his evening life; he has very few social contacts and the television is on without fail. It is worthwhile to ask if loneliness is a critical factor in his poorer adjustment. Although it does not have to be the case, for this group, a consensus was found on two important questions: they had less happy childhoods and admitted feeling lonely at the time of the home interview. Finally, the competence pattern revealed here is very similar to that discussed at length above as 'poor testing profile', only this country pensioner has problems even when he is not trying to meet the demands of a group of psychological tests.

Males Factor 2: "The Torhamn Boys"

The second factor's first cluster (2C) had seven persons with loadings greater than .40 (Table 30). The background characteristics showed

Table 30. *Results from the cluster analysis for the males, Factor 2. This factor accounted for 7.7% of the total variance. (4 factors, oblique rotation).*

CLUSTER 2 C						CLUSTER 2 D					
	Background characteristics						Background characteristics				
Loading	Living area	Age	Occ. status	Marital status	Adjust. score	Loading	Living area	Age	Occ. status	Marital status	Adjust. score
.60	5	67	1	5	0.9	.57	1	62	1	2	-0.8
.58	5	67	3	5	1.3	.57	1	61	1	5	-2.2
.55	5	69	3	5	0.9	.45	3	61	2	5	-1.2
.53	5	66	1	5	1.2						
.49	5	70	1	5	1.5						
.42	4	70	3	1	1.1						
.42	4	63	1	5	0.5						

Living area: 1= large city (Lindängen), 2= large city (Rörsjö/Sorgenfri), 3= small city (Pantarholmen), 4= agricultural (Holmsjö), 5= peninsula/ archipelago (Torhamn)

Occupational status: 1= blue collar, 2= white collar, civil employee, 3= own boss

Marital status: 1= never married, 2= separated or divorced, 3= widowed, 4= living with a mate, 5= married

Loading	Variable desciption	Variable source
2.27	Higher cortisol levels	
2.06	Lived longer in present residence	Home interview form
2.01	Yes, will consider living in an old folks home	"
1.98	Weaker orientation	Basic Emotions Form
1.96	Felt effective (as opposed to unproductive)	Home interview form
1.92	Lower in verbal reasoning (opposites)	Cognition
1.89	Yes, likes to go out and enjoy himself	Home interview form
1.85	Lower in urbanism	Env. Response Inventory
1.54	More social contacts with others	Home interview form
1.46	Rated his health as better than peers	"
1.45	No, not hard to pass time after retirement	"
1.36	Lower in neuroticism	Eysenck Pers. Inventory
1.35	More social contacts with family members	Home interview form

these persons to be predominantly from the peninsula/archipelago area, married, and well above the sample's median for adjustment ranking. The second cluster (2D) was characterized by three persons who came from the urban areas, were younger in age, and had adjustment rankings below the median.

The most typical pensioner from the first cluster has lived in his present home for many years and has probably never considered moving to a big city. The qualities which distinguished him in the present study were his higher cortisol level, lower verbal reasoning abilities, rather negative emotional orientation in the clinical testing situation, and his greater frequency of social contacts, both family and non-family. He can be viewed as the well adjusted rural counterpart to the most well adjusted big city pensioner from Factor 1 above (Cluster 1C). He is easygoing, is lowest of all the groups in neuroticism, and is likely to have good or very good health. In short, he is satisfied with his life. He has children and a wife who take good care of him, he feels effective, and it is no surprise that he found it easier to pass the time right after retirement - for him the retirement event was merely a technical formality. It is also clear that he has a sense of community, he knows what is going on in the area where he lives and is ready and willing to help a neighbor in need.

A typical summer day for this pensioner might read as follows. He is certain to rise before 7 am and start his day in the kitchen with his wife for coffee and breakfast. By 8 he is out the door, maybe to fill the motor saw for some wood cutting, or to the potato field which needs weeding. These chores are interrupted for an almost automatic coffee break around 9.30 and the mid-day meal with his wife at 12.00. The afternoon is similar, maybe another field or part of the forest needs tending, maybe he will take the car into town to buy some food or reparation materials for the roof on the barn he is going to start fixing next week. The evening meal is served about 5 pm, and after the coffee, he and the wife might go out and pick some strawberries to take to some friends in the evening. It is just as likely, for those from the peninsula/archipelago area, to take the car or bicycles down to the waterfront and take the rowboat for a tour, maybe to do a little fishing. By 10.00 they are home again and ready for bed, only he probably will not have a book on his bedside table. This description reads like it was taken from the diary of a settler in the late 19th century, and that is not such a bad comparison.

The second cluster for this factor was not as strong but is still worthy of discussion. This male pensioner has not lived long in his present residence, he is not feeling effective, doesn't like to go out and enjoy himself much and it follows that he has fewer social contacts. He has much more negative opinion of nursing homes, but he probably had a more positive attitude towards the clinical testing in this study. The outstanding explanation for his worse adjustment is poor health, he is likely to have a serious health problem, e.g., a heart condition which might require a pacemaker. Retirement for him was a forced choice due to poor health. It is therefore not a surprise that he found it more difficult to pass the time right after the retirement. The importance of health cannot be overestimated

for this person, his self-esteem and identity has suffered greatly from having to stop work early. When you ask him if he often feels that no one needs him, his answer is yes, even if he has a wife and children who care about him.

Finally, his daily life is rather routine. Careful intake of medicine and regular walks with the dog are interspersed with reading and resting at home. The television is likely to be on each night and his wife is there beside him. Some pensioners do overcome serious health problems and reveal a satisfactory, even good, adjustment in older age. Unfortunately this is not the case for this man. In terms of the theoretical model, his personal competence is insufficient.

Males Factor 3: "Old Age - The Sweets and the Bitters"

This factor's first cluster (3C) was very homogenous in terms of backgound characteristics; all its representatives were from the small city area (Pantarholmen) and had very positive adjustment rankings. The second cluster (3D) was harder to define; it had representatives from four of the living areas, varied in age, and had adjustment scores of varying values (Table 31).

This factor revealed two clusters which pivot on what might be understood as 'ego integrity' in Erik Erikson's terms(1963)or 'self-actualization' in Maslow's (1954). The representatives from the first cluster were extremely well adjusted and in a more self-aware, or philosophical way than the well adjusted men from the big city (Cluster 1C) or those out in the country (2C). These pensioners are satisfied with their accomplishments in life, no matter how humble those might have been, and this is believed to be the key to their better adjustment in older age.

A look at the diary data revealed even more evidence of this cluster's self-actualized pattern. Their activities were often less typical. For example, amongst this cluster was one man who woke up at 4 am and went out to the sea and rowed his boat for three hours. This same person brought with him to the testing session a list of his special vegetarian diet in case we were interested in more specific details about his health.

In conclusion, these men were pensioners that left an impression on us, not because they were highly dynamic, or did well on the tests, but because they were sincerely at peace with themselves.

The second cluster from this factor represents the non-actualized male pensioner. He can be found in any of the areas which might mean this pattern is more frequent in the present sample. Simply stated, he is bitter or angry about his life, especially the way it turned out. This cluster is similar to what Neugraten called 'armored-defended' (1968, p. 173-174) and Reichard called 'angry men' (1962). It is appropriate that the most characteristic test response from this cluster was a lower average pleasantness rating on the Conflict Situations - the twelve drawings from that technique all represent problems of aging, and it is safe to say this pensioner's ego is not sufficiently integrat-

Table 31. *Results from the cluster analysis for the males, Factor 3. This factor accounted for 6.2% of the total variance (4 factors, oblique rotation).*

CLUSTER 3 C						CLUSTER 3 D					
	Background characteristics						Background characteristics				
Loading	Living area	Age	Occ. status	Marital status	Adjust. score	Loading	Living area	Age	Occ. status	Marital status	Adjust. score
.57	3	62	1	1	1.4	.62	2	66	1	4	-1.4
.44	3	65	1	1	1.1	.53	5	64	1	5	-0.4
.41	3	65	2	5	1.1	.48	5	63	1	5	0.6
.32	3	68	1	5	1.6	.45	1	61	1	5	-2.2
.31	3	65	2	5	1.2	.37	1	62	1	5	0.8
						.30	4	68	1	5	0.2

Living area: 1= large city (Lindängen), 2= large city (Rörsjö/Sorgenfri), 3= small city (Pantarholmen), 4= agricultural (Holmsjö), 5= peninsula/ archipelago (Torhamn)

Occupational status: 1= blue collar, 2= white collar, civil employee, 3= own boss

Marital status: 1= never married, 2= separated or divorced, 3= widowed, 4= living with a mate, 5= married

Loading	Variable description	Variable source
2.37	Higher average pleasantness ratings	Conflict Situations Tech.
2.27	Rated his health as better than peers	Home interview form
2.19	No regrets of not having made more of his life	"
1.73	No, is not easily irritated	"
1.72	To be older is better than he expected	"
1.64	Higher on leisure activities task (frequency)	Creativity/div. thinking
1.56	Felt rested (as opposed to tired)	Home interview form
1.46	Yes, likes always changing activities	"
1.43	Less affected by visual complexity on the signal detection task	Env. Attention Technique
1.41	No, does not often feel lonely	Home interview form
1.32	Greater % of solutions	Conflict Situations Tech.

ed to generate healthy responses to these problems. One could also guess that he is not well prepared for the biggest conflict of all in old age, namely death.

Is it possible to pinpoint the source of this bitterness? Once again, for the present cluster, poor health was prevalent, e.g., cardiovascular difficulties, or malfunctioning kidneys. Poor health may explain part of the poor adjustment, but it would be interesting to know why one less well adjusted group with poor health does not show bitterness (e.g., Cluster 2D) and another does, as in the present cluster.

Males Factor 4: Untitled

In many ways, Factor 4 comprised the most complicated clusters. Both had average adjustment rankings above the median, but there were clear differences in living area and marital status. The first cluster (4C) consisted of urban married men, while the second contained only persons from the rural areas who were predominantly unmarried (Table 32).

This factor revealed two patterns which complement clusters found in other factors. As noted above, both these clusters were well towards the positive end of adjustment. The first can be viewed as the complement to the well adjusted urban extrovert from Factor 1 (Cluster 1C); except for the present cluster's lower scores in Extroversion, the two appear quite similar. The typical pensioner from this cluster is in good health, is married, and did well on the cognitive tasks. His introversion probably explains his rather negative emotional evaluation at the outset of the testing session (it seems clear that the introverts were much less thrilled by the clinical testing).

The daily life of this pensioner is likely to be well planned and full, e.g., gardening, trips out to the summer cottage, and 'table work' (paying bills, writing letters, etc.). His evening is likely to be filled with reading and television. Not many of his days involve contact with people other than his immediate family. Finally, the data here showed that this person might be harboring certain regrets about not having made more of the possibilities in his life. It is not easy to pinpoint the source of any regrets, but a closer study of his occupational achievements (of failures) might reveal the answer - all of this cluster worked for large industrial companies or the military establishment.

The second cluster from this factor was considered important because it revealed the well adjusted never-marrieds from the country. This pensioner is open and more extroverted and although he is unmarried, this does not dictate an isolated social life for him. It is sensible to believe him when he says he is not lonely. These aspects about him are what most distinguish him from the less well adjusted unmarried men discussed above (Cluster 1D).

The data suggested this person is more likely to take medicine. The inspection of the time-budgets for this cluster showed them to have

Table 32. *Results from the cluster analysis for the males, Factor 4. This factor accounted for 5.3% of the total variance (4 factors, oblique rotation).*

CLUSTER 4 C						CLUSTER 4 D					
	Background characteristics						Background characteristics				
Loading	Living area	Age	Occ. status	Marital status	Adjust. score	Loading	Living area	Age	Occ. status	Marital status	Adjust. score
.51	3	69	2	5	0.8	.48	4	70	3	1	1.1
.51	3	68	2	5	1.0	.42	4	63	2	1	0.6
.50	1	63	1	5	0.8	.38	4	63	1	5	0.7
.44	3	63	1	4	0.0	.33	5	61	3	1	-0.4
.43	3	63	1	5	1.0						
.42	1	65	1	5	1.5						

Living area: 1= large city (Lindängen), 2= large city (Rörsjö/Sorgenfri), 3= small city (Pantarholmen), 4= agricultural (Holmsjö), 5= peninsula/ archipelago (Torhamn)

Occupational status: 1= blue collar, 2= white collar, civil employee, 3= own boss

Marital status: 1= never married, 2= separated or divorced, 3= widowed, 4= living with a mate, 5= married

Loading	Variable description	Variable source
2.82	No, doesn't take prescribed medicine	Home interview form
2.56	More negative evaluation	Basic Emotions Form
2.06	Yes, plans in advance to make it though week	Home interview form
1.75	Less openess	Basic Emotions Form
1.75	Fewer social contacts with others	Home interview form
1.68	Higher in spatial reasoning (cubes)	Cognition
1.51	Yes, regrets not having made more... his life	Home interview form
1.43	Higher in urbanism	Env. Response Inventory
1.40	Lower in extroversion	Eysenck Pers. Inventory
1.35	Higher need for privacy	Env. Response Inventory

health problems that were controlled for the most part by proper medication, e.g., high blood pressure. One of the subjects in this cluster asked the interviewer if taking a cognac now and then for a bad leg was considered medicine?

In conclusion, his lifestyle suits his environment well and vice versa. He is more than likely to be his own boss, e.g., running his own farm or fishing boat. His daily life is likely to involve plenty of nature, chores, and animals, and is not visibly different from his life before retirement. This pensioner also belongs to the categories 'well adjusted, integrated, mature, and self-actualized', an observation that probably would not impress him much.

Summary of the cluster analysis

In summarizing the cluster analysis one should first note that two of the eight clusters for the females were not interpreted due to weak statistical representation in the present sample. As Table 33 shows, of the six remaining clusters, two were clearly defined by good adjustment (1A, 2A). It is worth noting that these two clusters suggest different avenues to well-being in older age. The first (1A) seems to support the so called 'activity' theory of aging, which as its label implies, advocates social engagement and high activity levels for successful aging. This theory has been much discussed during the last 20 years (see, e.g., Havighurst et al. 1968). The second cluster (2A) seems to dictate good adjustment in environmental terms, i.e., happiness means living in the rural environment for many years.

As expected, poor physical health was common to both the clusters of poorly adjusted females (1B, 3B). We want to interpret the first pattern as more devastating and widespread since it represents the maladjusted urban female. This is the pensioner the social welfare authorities put much effort into reaching. However, concerning the second cluster, it is tempting to interpret its pattern of maladjustment as less dire, mainly due to the elements of extroversion and high cognitive competence found in it.

Although the descriptions of the widows and the never-married (4A, 4B) presented here should not be viewed as typical of those two subgroups, their competence patterns were instructive. Widowhood is a complicated life-event and the competence pattern of that cluster reflected this fact.

Concerning the males, five varieties of successful aging were revealed (Table 34). Is there a common thread throughout these clusters besides good health? Not a definite one, but three of the five (1C, 2C, 4D) have a component of extroversion in their patterns. However, the remaining two showed that other competence patterns can define good adjustment for males, whether it be the self-actualized man from the small city (3C) or the married introvert, who in the present study was living in the urban environment (4C).

Poorer adjustment in the males, as expected, was most clearly related to poor physical health. It was interesting to note the two forms this can take: in one cluster we saw apathy (2D); and in the other bitterness (3D). Finally, a cluster of unmarried introverts living in the country was also revealed (1D). This is a maladjusted group which is probably hardest of all to reach with community health and social programs.

Table 33. *Summary of the patterns of personal competence for the females.*

CLUSTER	DEFINING CHARACTERISTICS
1 A	Well Adjusted, Younger, Worked Outside The Home, Active, Less Neurotic, Open, Good Physical Health
1 B	Poorly Adjusted, Older, Urbanite, Less Active, More Neurotic, Less Open, Poor Physical Health
2 A	Medium To Well Adjusted, Older, Married, Rural Resident, Sees The Bright Side Of Problems, Feels Happy
2 B	Not Interpreted Due To Few Persons
3 A	Not Interpreted Due To Few Persons
3 B	Poorly Adjusted, Dissatisfied With Life, High In Cognitive Abilities, Poor Physical Health
4 A	Medium In Adjustment, Lower Cognitive Abilities, Extroverted, Trouble Sleeping, Lower Environmental Trust (Interpretation Limited To The Widows)
4 B	Well Adjusted, Higher Cognitive Abilities, Introverted, No Problems Sleeping, Higher Environmental Trust (Interpretation Limited To The Never-Married)

Table 34. *Summary of the patterns of personal competence for the males.*

CLUSTER	DEFINING CHARACTERISTICS
1 C	Well Adjusted, Married, Urbanite, Extroverted, Not Lonely, No Problems Sleeping, Higher Cognitive Abilities
1 D	Poorly Adjusted, Unmarried, Rural Resident, Introverted, Lower Cognitive Abilities, Tired
2 C	Well Adjusted, Married, Peninsula/Archipelago Resident, Higher Cortisol, Feels Effective, Good Physical Health, Social, Lower Neuroticism
2 D	Poorly Adjusted, Urbanite, Younger, Feels Ineffective, Forced To Retire Due To Poor Health, Not Social
3 C	Well Adjusted, Small City Resident, Good Physical Health, Self-Actualized, Likes Variety In Daily Life
3 D	Poorly Adjusted, Married, Poor Physical Health, Bitter About Life, Lonely, Routine Daily Life
4 C	Well Adjusted, Married, Urbanite, Good Physical Health, Introverted, Not Totally Satisfied With His Accomplishment In Life
4 D	Medium To Well Adjusted, Never-Married, Rural Resident, Extroverted, Social, Satisfied With His Life

CONCLUDING DISCUSSION

What can be concluded about the present study? The first aim of the study was to create a criterion by which persons could be classified according to adjustment and well-being in older age. The adjustment criterion deserves a positive evaluation. The primary evidence comes from the large number of significant effects related to the adjustment criterion. These results not only made theoretical and manifest sense, but it is important to note that the effects were revealed across all the testing domains, with the exception of the physiological one. One of the most promising facts about the present criterion was its effectiveness at distinguishing between two groups who had, relatively speaking, small differences in adjustment. Furthermore, the results from this criterion provide additional proof that such self-report scales are an effective way to measure older persons' psychological adjustment and well-being.

Concerning the scores for adjustment from the present study, three conclusions can be drawn. First, the females from the urban areas scored least well adjusted of all the groups. Second, in the urban areas, males scored better adjusted than females, but there were no sizeable differences between males and females in the rural areas. Third, both the males and females from the peninsula/archipelago area scored most well adjusted of all the groups. The data presented throughout this report, for the most part, supported these differences in adjustment.

The second aim of the study was to investigate the relations between personal competence and adjustment to aging. Three general conclusions from this aspect of the study focus on the following issues. First, poorer physical health was indisputably the most consistent variable contributing to poorer adjustment in what are basically healthy pensioners. This is not a new observation. What might provide new insight on this matter would be to study a group of pensioners who have bad health but are still well adjusted to aging. This is a special type of person whose competence makes him or her an attractive research subject. If one could assemble such a group for an assessment study, the benefits would probably be large. However, finding such a group will not be a matter of random sampling. In the present study, the cluster of well adjusted unmarried rural males (Cluster 4D) came the closest to fitting this pattern. A closer look at the health profiles of these persons, however, showed them to not have that debilitating of health problems, i.e., the kind that require major adaptations in mental attitude and lifestyle.

The second issue concerns the fact that the female pensioners in the urban areas were less well adjusted. Older women are receiving more and more research attention, which is promising. The woman's world is changing at a great pace, and evidence of this is most obvious in the large city environment. It is not surprising that the best adjusted females in the present study came from environments that are, relatively speaking, very stable, very non-urban, and much more manageable. What shall be done? Shall we take the female pensioners from Malmö and relocate them in the middle of Blekinge? This is not so far-fetched, hundreds of so-called 'retirement communities' do just that throughout North America. It is important to remember that successful retirement communities do not only provide a more secure, controllable living environment. They also provide a more stimulating lifestyle, or at least the possibility to participate in leisure activities relevant to ones values, age, and health, or in the terminology of the present study, ones competence. The proper management of such communities is just as critical as their environmental qualities. No doubt the social welfare authorities in Sweden have started investigating these alternatives long ago. Maybe this option should exist for those older persons who, because of whatever deficits in their personal competence, cannot seem to find happiness in the large urban environment as it is today. This admittedly implies a rather pessimistic view of the potential for self-development and learning in this group of lower competence pensioners, but in this case, environmental solutions just might be the best answer.

Another less extreme, and much less expensive step in the right direction would call for intensive assessment studies of groups of well adjusted female pensioners from larger urban areas, ideally with a longitudinal perspective. Such assessments could further the present knowledge by in-

cluding more details about this group's trust in the environment, cognitive abilities, and their qualitative perceptions of their own social situations and daily activities. Here again, the challenge would be to study such a group, extracting the critical factors in their personal competence, lifestyle, and environment which best explain their superior management of a situation which apparently foils others.

The third issue concerns the discrepancy between the rural males' competence and their adjustment to aging. The fact that this group displayed higher well-being but lower personal competence suggests two important conclusions. First, it upholds a major proposition of the theoretical model in the study. The rural males, particularly those from the peninsula/archipelago area, showed high adjustment which is indicative of a good, even excellent, fit between their (lower) personal competence and the demands from their environment. It can be concluded that this good fit is possible because the press from the rural environment is also lower than e.g., in the urban environment. (If the data had revealed a group of pensioners from the urban environment who scored high in adjustment and showed low competence on the assessment measures, that would have been hard to explain in terms of the model.)

The second conclusion concerning this issue points to a weakness of the assessment package used in the study, namely the failure to find the key to this rural pensioner's good adjustment. His lower level of neuroticism is one piece of evidence, but it would have been interesting to pinpoint other pieces of clinical evidence for his psychological well-being. It might eventually be concluded that this secret is not to be found in the deeper, covert aspects of his competence. The best answers are probably found by more detailed examinations of his social world, the degree of autonomy in his daily lifestyle, his satisfaction from doing a good day's chores, etc. These are things that are not easily translated into paper and pencil tests.

Finally, the third aim of the study was to identify patterns of personal competence within the sample. The value of cluster analysis as a statistical method was demonstrated in the study. We see this method as a good compromise between the perspectives of statistical vs. clinical assessment. As shown here, this can result in a finer tuned picture of those main effects found in the data as a whole. For example, as expected, there were no clusters of well adjusted females from the two large city areas revealed in the analysis. There was however, a well adjusted cluster which contained females from the smaller urban area. This points to a difference in adjustment which was hidden by our reclassification of the living areas for the analysis of variance.

Finer tuning can also be seen in the variables which characterized the responses of each cluster. One good example concerns the age variable for the females. In the ANOVA, there were no relations revealed between age and adjustment. However, in the cluster analysis we saw that age may have a more complicated relationship to adjustment for females, i.e., in the factor defined most clearly by adjustment (Factor1), the better adjusted females were younger. Then in the next factor, the well adjusted 'country wives' were shown to be older. Similar examples were shown for extroversion in the male clusters, e.g., extroversion was not

significantly affected by adjustment in the ANOVA, yet it was highly loaded in one of the male factors in the cluster analysis which was largely defined by adjustment (Factor 1).

One of the other values of the cluster analysis was its ability to better articulate the general pattern of adjustment in the study. For example, it was known that the females were less well adjusted, especially in the urban areas, but the cluster analysis showed there are females who are poorly adjusted but high in cognitive competence, and there are females that are just poorly adjusted. Such a finding implies quite different strategies for the social authorities and other professionals who try to help both these types of persons. The pattern of better adjustment for the males was also given more detail by the cluster analysis. The three clearest versions of good adjustment were: big city extroversion, healthy country living, and small city self-actualization.

One further comment concerns the widowed, divorced, and never married pensioners. Although their numbers were too few in the present study, it is important to note their frequent occurrence in the cluster groupings. Their appearance in the clusters and the competence patterns revealed by the representatives of the three groups are evidence of their unique situations in older age. Furthermore, there is reason to believe the personal competence, lifestyle, and environmental experience vary considerably between the three groups. The careful study of these subgroups and their differences is justified since the continued differences in longevity between the sexes, fluctuating values in the number of persons who do not marry, and the higher divorce rates of today mean the frequencies of these groups will continue to rise.

Finally, the present study showed that simple conclusions about adjustment and well-being in Swedish pensioners are not justified, especially concerning general differences between males and females or those living in one environment or another. However, when it comes to the more detailed patterns presented here, it is felt that many of them probably can be generalized to samples beyond those in the present study, hopefully adding better understanding to the complicated question of aging and well-being.

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Appendix 1. Descriptions of the three forms for creativity/divergent thinking included in the assessment package.

DIVERGENT THINKING: Leisure activities.

Instructions

We would like you to pretend you have just become a 'recreation leader' for a group of pensioners. Your first task as a recreation leader is to write down as many different activities you can think of that pensioners could do, except the most common ones which are listed to the left. When you are thinking about the different activities, try to not limit yourself by practical things such as money, weather, geography, or time.

You should not write any of these common activities down below:

Visit to a sport event
Billards
Embroidery
Stamp collecting
Cooking
Coin collecting
Porcelain painting
Handicrafts
Carpentry
Knitting
Crocheting
Weaving

Appendix 1.

DIVERGENT THINKING: Alternate uses of a newspaper (Guilford 1959).

Instructions

Nowadays there are many things that are thrown away which could be used for other purposes, for example, a newspaper. We would like you, in the next few minutes to think of as many different ways you can to use a newspaper. Please write them in the space below:

Appendix 1.

CREATIVITY QUESTIONS (adapted from Smith et al. 1985)

The following questions were included in the assessment package in order to investigate the correlations between these questions and the four scores in divergent thinking (see previous page). No significant correlations were revealed.

1. How long back in time can you remember...what was your first (earliest) memory?

   How old were you when this took place?

2. Do you remember your dreams?

   If yes, do you dream in color?

3. Do you play an instrument?

   If no, have you played one earlier in your life?

4. Do you write music or compose songs?

5. Do you write poetry?

6. Do you write letters?

   If yes, how many per month?

Appendix 2. The 5 factor solution (oblique rotation) for the Basic Emotions Form. It accounted for 47% of the total common variance. The item-factor loadings appear to the right.

FACTOR 1: OPENESS

tystlåten (quiet)	-	pratsam (talkative)	.73
allvarsam (serious)	-	skämtsam (joking)	.71
avvaktande (hesitant)	-	ivrig (eager)	.68
reserverad (reserved)	-	sällskaplig (sociable)	.62
blyg (shy)	-	ogenerad (unblashful)	.56
undergiven (submissive)	-	dominerande (dominant)	.49
obeslutsam (undecisive)	-	självsäker (selfcertain)	.46
inåtvänd (introverted)	-	utåtriktad (extroverted)	.44
borta (away)	-	hemma (at home)	.41

Factor 1 accounted for 12.0% of the total common variance.

FACTOR 2: STRAIN

lugn (calm)	-	rastlös (restless)	.67
trygg (secure)	-	ängslig (anxious)	.66
avslapnad (relaxed)	-	spänd (tense)	.66
sorglös (carefree)	-	bekymrad (worried)	.58
klarvaken (wide awake)	-	sömnig (sleepy)	.53
utvilad (rested)	-	trött (tired)	.52
pigg (alert)	-	dåsig (drowsy)	.49
bland andra (with company)	-	ensam (lonely)	.48
oåtkomlig (inaccessable)	-	utsatt (exposed)	.39

Factor 2 accounted for 11.4% of the total common variance.

FACTOR 3: EVALUATION

arg (angry)	-	vänlig (friendly)	.61
ledsen (sad)	-	glad (happy)	.59
aggressiv (aggressive)	-	fridsam (peaceful)	.57
hopträngd (crowded)	-	avskild (secluded)	.57
uttråkad (bored)	-	intresserad (interested)	.53
missnöjd (unsatisfied)	-	till freds (satisfied)	.45

Factor 3 accounted for 8.9% of the total common variance.

FACTOR 4: CONTROL

oföretagsam (ineffective)	-	effektiv (effective)	.61
lat (lazy)	-	energisk (energetic)	.61
liten (little)	-	stor (big)	.55
svag (weak)	-	stark (strong)	.48
obeslutsam (undecisive)	-	självsäker (selfcertain)	.41
skämtsam (joking)	-	allvarsam (serious)	.41

Factor 4 accounted for 8.3% of the total common variance.

Appendix 2.

FACTOR 5: ORIENTATION

oberörd (engaged)	-	engagerad (unengaged)	.82
likgiltig (uninterested)	-	nyfiken (curious)	.69
eftertänksam (thoughtful)	-	spontan (spontaneous)	.44

Factor 5 accounted for 6.4% of the total common variance.

The correlation matrix for the five factors:

	1	2	3	4	5
1. Openess (more)	1.00				
2. Strain (more)	-.15	1.00			
3. Evaluation (positive)	-.02	-.24	1.00		
4. Control (higher)	.16	-.21	.12	1.00	
5. Orientation (stronger)	.10	-.16	.09	.20	1.00

r=.19 (p=.05) r=.25 (p=.01) r=.32 (p=.001)

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